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(54) Title: METHODS AND SYSTEMS FOR AUTOMATED AUTHENTICATION, PROCESSING AND ISSUANCE OF DIGITAL CERTIFICATES

(57) Abstract: A computer system and process for automated identification, processing and issuance of digital certificates, wherein web server domain-control vetting is employed in issuance of web server certificates. A Requestor requests a web server certificate from a certificate authority, the certificate authority receives the request. Based on domain information the certificate authority generates Approver email addresses, and the Requestor is required to select an Approver email address or addresses. The certificate authority contacts the Approver using the selected email address or addresses and requests that the Approver approve issuance of the certificate. If approved, the certificate authority accepts the request, and creates and signs the certificate and the signed certificate is sent to the Requestor.

METHODS AND SYSTEMS FOR AUTOMATED AUTHENTICATION, PROCESSING AND ISSUANCE OF DIGITAL CERTIFICATES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Application Ser. No. 60/328,766, filed October 12, 2001, the disclosure of which is incorporated herein by reference. A portion of the disclosure of this patent document contains material which is subject to copyright protection. The copyright owner has no objection to the facsimile reproduction by anyone of the patent disclosure, as it appears in the Patent and Trademark Office public patent files or records, but otherwise reserves all copyright rights whatsoever.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to methods and systems for identification, processing and issuance of server based digital certificates.

[0003] In order to secure information transmitted over the Internet, methods have been developed to secure the connection between web browsers and web servers. Secure sockets layer (SSL), recently re-named TLS but substantially the same protocol, is a protocol designed to enable communications on an insecure network such as the Internet. SSL provides encryption and integrity of communications along with server authentication using digital certificates. However, an SSL connection does not ensure the identity of the recipient of the information nor does it secure the information once it is decrypted at the web server. Therefore, it is important to be certain that the web server is legitimate.

[0004] It has become common practice to use web server digital certificates to authenticate the identity of a web server to visiting browsers. A user's browser will access the web server's digital certificate when directed to enter a secure session. The certificate, which contains the web server's public key is then used by the browser to authenticate the identity of the website, that is, the web server and to provide the web browser with the web server's public key so that the web browser can encrypt a session key for use in encryption of transmitted data. Since only the web server has the private key to decrypt the user's information, such information remains secure. The web server certificate is issued by a certification authority. Applicants' assignee, GeoTrust, Inc. is a certification authority. Most web browsers are published with a number of root digital certificates (containing public keys) for CA's already installed and hence the web browser will recognize the CA's signature and trust the certificate.

[0005] Generally, in order to obtain a certificate, the website owner, the Requestor, will submit a certificate signing request (CSR), or its equivalent, containing the web server's public key, along with other information, to a certification authority (CA) and the CA, when satisfied as to the identity of the Requestor, will issue a certificate containing the web server's public key and sign the certificate using the CA's private key. A traditional method for vetting the web server Requestor is shown in Figure 1. The present invention is directed to methods and systems for automating the identification of the web server Requestor in issuing web server certificates.

SUMMARY OF THE INVENTION

[0006] A computer system and process for automated authentication, processing and issuance of digital certificates, wherein web server domain-control vetting is employed in the identification and authorization of the Requestor. Domain-control vetting, in accordance with the present invention, includes the mandatory selection of Approver contact addresses by the Requestor wherein the Approver contact addresses, for example, email addresses, have been generated based on domain information. A Requestor requests a web server certificate from a certificate authority, the certificate authority receives the request. The certificate authority generates Approver email addresses, and the Requestor is required to select an Approver email address or addresses. On the other hand, the Requestor can submit one or more email addresses and if one or more of these email addresses are also certificate authority generated Approver email addresses, then the certificate authority can accept the Requestor submitted email addresses that match. The certificate authority contacts the Approver using the selected email address or addresses and requests that the Approver approve issuance of the certificate. If approved, the certificate authority accepts the request, and creates and signs the certificate and the signed certificate is sent to the Requestor.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Figure 1 shows one example of the traditional vetting process.

[0008] Figure 2 shows one preferred embodiment of the vetting process of the present invention, namely, the QuickSSL vetting process.

[0009] Figures 3a and 3b shows an Initial QuickSSL Premium enrollment page in accordance with one embodiment of the present invention.

[0010] Figure 4 shows a CSR Review and confirmation page in accordance with the present invention.

[0011] Figures 5a and 5b show a Order Contact information page in accordance with one embodiment of the present invention.

[0012] Figure 6 shows an Approval selection page in accordance with one embodiment of the present invention.

[0013] Figure 7 shows a Payment page in accordance with one embodiment of the present invention.

[0014] Figures 8a and 8b show an Order Summary and Requestor (Subscriber) confirmation page in accordance with one embodiment of the present invention.

[0015] Figure 9 shows a Confirmation page in accordance with one embodiment of the present invention.

[0016] Figure 10 shows a Requestor (Applicant) confirmation email in accordance with one embodiment of the present invention.

[0017] Figure 11 shows an Approver email in accordance with one embodiment of the present invention.

[0018] Figure 12 shows an Approver review and confirmation page in accordance with one embodiment of the present invention.

[0019] Figure 13 shows an Approver confirmation page in accordance with one embodiment of the present invention.

[0020] Figures 14a and 14b show a Fulfillment email in accordance with one embodiment of the present invention.

[0021] Figures 15a and 15b show the initial certificate order pages in accordance with a second embodiment of the present invention.

[0022] Figures 16a, 16b and 16c show a enrollment form in accordance with a second embodiment of the present invention.

[0023] Figure 17 shows the enrollment form in accordance with a second embodiment of the present invention wherein a CSR has been pasted into the required field.

[0024] Figures 18a and 18b show one manifestation of how the enrollment form and other pages in accordance with the second embodiment of the present invention are interactive and self-correcting, requiring the Requestor (Subscriber) to correct errors and add omitted but necessary information before proceeding.

[0025] Figures 19a, 19b, 19c and 19d show the enrollment information conformation and Subscriber Agreement process in accordance with a second embodiment of the present invention.

[0026] Figure 20 shows the automatic response back to the Requestor (Subscriber) who has submitted the completed certificate request properly in accordance with a second embodiment of the present invention.

[0027] Figure 21 shows a version of the email message the Approver receives requesting approval of the certificate request from the Requestor (Subscriber) in accordance with a second embodiment of the present invention.

[0028] Figure 22 shows information, terms and conditions, and agreements for the Approver to agree to in approving or disapproving the certificate request in accordance with a second embodiment of the present invention.

[0029] Figure 23 shows an automated notice confirming the approval of the certificate request in accordance with a second embodiment of the present invention.

[0030] Figure 24 shows the web server certificate as issued in an email after approval in accordance with a second embodiment of the present invention.

[0031] Figure 25 shows an automated notice confirming the disapproval by the Approver in accordance with a second embodiment of the present invention.

[0032] Figure 26 shows a provisioning algorithm in accordance with a second embodiment of the present invention.

[0033] Figure 27 shows a provisioning architecture in accordance with a second embodiment of the present invention.

DESCRIPTION OF THE INVENTION

[0034] The aspects, features and advantages of the present invention will become better understood with regard to the following description with reference to the accompanying drawings. What follows are preferred embodiments of the present invention. It should be apparent to those skilled in the art that the foregoing is illustrative only and not limiting, having been presented by way of example only. All the features disclosed in this description may be replaced by alternative features serving the same purpose, and equivalents or similar purpose, unless expressly stated otherwise. Therefore, numerous other embodiments of the modifications thereof are contemplated as falling within the scope of the present invention as defined herein and equivalents thereto. Use of absolute terms, such as "will not ... .. will," "shall," "shall not," "must," and "must not," are not meant to limit the present invention as the embodiments disclosed herein are merely exemplary.

[0035] This is a description for how the invention would apply to automated identification, processing, and issuance of digital certificates. For example, SSL server certificates, in this case through an Issuer's Web portal. This is only one of many potential systems, process flows and applications for the invention.

A FIRST PREFERRED EMBODIMENT

[0036] In accordance with the present invention the automated methods and systems for Requestor identification may be referred to as domain-control vetting, an example of the process for domain-control vetting is shown in Figure 2. Domain control vetting is the process for verifying that a Requestor has permission from an Approver to obtain and install the product. The Approver must demonstrate control of the domain. Thus, in the present invention the Approver is differentiated from the Requestor. The Approver is an individual who has domain-control and has the responsibility for approving the Requestor's request for a domain-control vetted product (such as QuickSSL). The Requestor is the end user requesting the SSL certificate. In domain-control vetted orders the Requestor selects the Approver email address from a list of authoritative email addresses.

[0037] In initiating the request, the Requestor fills out an order form including Certificate Signing Request (CSR), and order contact information. See Figures 3a, 3b, 4, 5a and 5b. The Certificate Signing Request (CSR) is a block of information typically generated by the Web Server software that is meant to be submitted to a Certificate Authority (CA) in return for a SSL certificate. The CSR provide the Certificate Authority with the information necessary to generate the SSL Digital Certificate. When the Web Server generates the CSR it is actually generating a

Private and Public Key pair. The private key is kept secret and the public key is bundled into the CSR. The CSR is digitally signed by the private key which proves to the CA that the Web Server has possession of the private key (called "proof of possession").

[0038] Next the Requestor is presented with a list of potential Approver emails. See Figure 6. This list may be generated by combining domain related information. Disclosed below are three types of addresses which may be utilized. Of course there are other ways of determining the Approver's email address in accordance with the present invention. In this step of the process, the choices offered in the form for email address for the Approver (Approver Email Address or Addresses) are limited to those chosen by the Issuer, and cannot be altered or amended by the Requestor. The Approver Email Address choices offered on this page (Figure 6) are not created by Requestor or entered into the Enrollment Form by the Requestor, and so the Requestor cannot divert or "short circuit" the approval process by directing the email message requesting official approval of the certificate issuance request to the Requestor or to an unauthorized person. This provides a security element of the automated process and system of the present invention.

[0039] In the first type, the system obtains the technical and administrative contacts from the WhoIs system- a database mandated by ICANN to be maintained by the domain registrars. In the case the system cannot determine the exact role of the person it will, in certain instances, pull out any e-mail address, for example the e-mail addresses in the response message could be for administrative, technical, billing or other e-mail addresses.

[0040] In the second type, the following list of mail box names, namely: admin, administrator, hostmaster, info, root, ssladmin, sysadmin, webmaster, or other names, may be pre-appended to the 2, 3, 4, ... N component domain of the certificate being requested. For example, if the requested certificate was for "us.secure.geotrust.com", then the system in accordance with this embodiment of the present invention would allow the following: admin@us.secure.geotrust.com; admin@secure.geotrust.com; and admin@geotrust.com for each and every of the "mail boxes" listed above.

[0041] In the third type, "standard", fixed address sent to the CA's customer support group (support@CA.com) where they will address this on a case by case basis. For example, by sending it to support@ca.com or support@geotrust.com.

[0042] The Requestor chooses an Approver email, reviews the order information, agrees to the subscriber agreement and completes the order, including payment, and can review the order. See Figures 6, 7, 8a and 8b.

[0043] An e-mail is sent to the administrative and technical contacts acknowledging the receipt of the order, and the Approver e-mail is sent to the Approver. See Figures 9, 10 and 11. Approver receives email with embedded link to the approval site back at the CA and the Approver reviews the order information and either approves or rejects. See Figures 11, 12 and 13. Requestor receives digital certificate (and/or other fulfillment) via email. See Figures 14a and 14b.

A SECOND PREFERRED EMBODIMENT

[0044] The Requestor in this embodiment is either the Web domain name registrant who will receive and use the SSL server certificate on the site, or a hosting company/Internet service provider or other agent acting upon the registrant's behalf, views initial certificate order pages and chooses to "order now." This brings Subscriber to a detailed instruction page, including technical assistance and hyperlinks to other resources and instructions. To proceed, Requestor clicks on "apply now" and is taken to the next page. See Figures 15a and 15b.

[0045] The Requestor completes an Enrollment Form providing Requestor Contact and Technical Contact information (including email address) for future communications from Issuer. Requestor generates a Certificate Signing Request (CSR) through standard computer software, and pastes a copy of the CSR in the field indicated on the Enrollment Form to request the SSL server certificate. This page and other pages contain relevant terms and conditions for the transaction and process (e.g., references to the applicable Certificate Practice Statement. To proceed, Requestor clicks "submit." See Figure 16a, 16b and 16c. The Enrollment Form showing a CSR pasted into required field is shown on Figure 17.

[0046] The Enrollment form and other pages in the process are interactive and self-correcting, requiring the Requestor to correct errors and add omitted but necessary information before proceeding. Figures 18a and 18b.

[0047] After submitting the Enrollment Form, the Requestor is asked to confirm basic information elements extracted from the Form, including information concerning the Requestor's server's fully qualified domain name, organization, organizational unit, city, state, and country that was extracted from the CSR generated by the Requestor and pasted into the form. This data is presented for approval in the exact form that it will be inserted automatically in the SSL server certificate generated by this process and invention. See Figures 19a, 19b, 19c and 19d.

[0048] The Requestor is also required to select an email address for the official person (the "Approver") associated with the domain name who will be asked to approve the issuance of the certificate with the specific data elements contained in the CSR. See Figures 19b, 19c and 19d. In this step of the process, the choices offered in the form for email address for the Approver, the Approver Email Addresses, are limited to those chosen by the Issuer, and cannot be altered or amended by the Requestor. Please note that the Approver Email Address choices offered on this page are not created by the Requestor or entered into the Enrollment Form by the Requestor, and so the Requestor cannot divert or "short circuit" the approval process by directing the email message requesting official approval of the certificate issuance request to the Requestor or to an unauthorized person. This provides a security element of the automated process and invention.

[0049] The Approver Email Addresses can be generated or selected according to different algorithms designed for security or other purposes. They may be selected by automated and/or online processes which are also part of the automated process and invention, or they may be selected by off-line processes. As an example, the Approver Email Addresses can be composed some or all of the following data and algorithms: (1) elements created dynamically and automatically from Issuer or third party data sources in response to data or choices made by the Requestor, (2) elements created dynamically and automatically from data submitted by the Requestor, and (3) elements created dynamically and automatically or statically from off-line or pre-set Issuer or other algorithms. It should also be noted that alternately, instant messaging or other such electronic communication means could be implemented in addition to or in place of email technology for this aspect to the present invention.

[0050] In this case, as shown in Figures 19a, 19b, 19c and 19d, the choice of Approver Email Addresses combines all three features. For this example, the addresses in the screen shots are "billing@PHPWEBHOSTING.COM" and "support@PHPVWEB-HOSTING.COM", which are the official contact email addresses listed for this domain name in the official registries. The two choices in the left column under the heading "Authorized Domain Name Administrators" were generated automatically and dynamically in real time by looking up and recording the official listed email addresses for the Administrative Contact and Technical Contact for the domain name that is contained within the Certificate Signing Request (CSR) as received from the Registrant, as those email addresses are registered for the domain in one of many " WhoIs " domain name registries (the "Official Email Addresses"). The domain name can be read from the Common Name or CN field in the CSR (using X.509 format).

[0051] In another embodiment, the Requestor's domain name as entered into an enrollment form and/or as contained in the contact email addresses entered into an enrollment form submitted by the Requestor is compared with the domain name contained in the CN field of the CSR submitted by the Requestor, and the application is rejected if the two names do not match.

[0052] In another embodiment, the Requestor's 0 or OU name(s) (organization and organization unit), L (city), S (state or province), and/or C (country) information contained in the CN field of the CSR submitted by the Requestor is compared with the corresponding data submitted by the Requestor or other data, and the application is rejected if the two names do not match. IN still yet another embodiment the proceeding comparisons are both employed.

[0053] These automatic and dynamic features can (1) provide additional protection against fraud or mistake, (2) help ensure that the CSR is only approved by an authorized person associated with the domain name that is the CN of the certificate, and (3) help ensure that the certificate is delivered to persons associated with the domain name that is the CN in the certificate.

[0054] The process could also include an automated check of any public or private information source via the Internet or any other communications means, including the Issuer's own data or the data of an official or unofficial third party source, followed by a comparison and decision process (e.g., approval or rejection), and this subprocess could occur at any time in the enrollment and certificate request and issuance process.

In accordance with this algorithm, the chance of fraud or error in generation and delivery of the certificate to the wrong party is substantially reduced. In this case, the checking of the Official Email Addresses associated with the domain name contained in the CSR occurs automatically after the Requestor submits the Enrollment Form with the CSR pasted in, and the subsequent Enrollment pages were modified by using the information obtained through that automatic checking of a third party data source.

[0055] Other Approver Email Address choices are included in three additional columns to the right shown on Figures 19b, 19c and 19d. These addresses were selected by the issuer using the other two data and algorithm sources described above: (1) elements created dynamically and automatically from data submitted by the Requestor; and (2) elements created dynamically and automatically or statically from off-line or pre-set Issuer or other algorithms. In this case, the Approver Email Addresses listed in the three columns to the right on Figures 19b, 19c and 19d include: (1) the Level 4 domain name contained in the CSR (i.e., elements created dynamically and automatically from data submitted by the Requestor) and (2) prefixes consisting of the most commonly-used official email contact addresses for domain names (i.e., elements created dynamically and automatically or statically from off-line or pre-set Issuer or other algorithms). These alternatives are offered in case the Requestor (which may include a hosting company or Internet service provider, as described above) wishes to choose a different Approver Email Address from those dynamically generated based on the official domain name registry information (for example, because the domain name registrant has delegated the upkeep and operation of the associated Web site to the hosting company or Internet service provider, who is applying for the certificate on the domain name registrant's behalf).

[0056] In other circumstances, the Approver Email Address choices could be composed of all three of the data and algorithms sources described above, or any combination thereof, or any other relevant sources.

[0057] As shown in Figure 19d, the Requestor in this embodiment is required to agree to a Requestor Agreement with the Issuer before the process can continue. Clicking "I Agree" triggers the next step.

[0058] Figure 20 shows an automatic response back to the Requestor who has submitted the completed certificate request properly, and includes instructions for further communications. Figure 21 shows a version of the email message the Approver receives requesting approval of the certificate request from the Requestor. It contains a hyperlink taking the Approver to the Issuer's approval site. Because of the invention features described in connection with Figures 19a, 19b, 19c and 19d above, this message and link to an approval page can only go to one of the Approver Email Addresses offered by the Issuer based on the selected algorithms.

[0059] The Issuer's approval site may contain additional information, terms and conditions, and agreements for the Approver to agree to, or may simply contain a button, or other mechanism, allowing the Approver to approve or disapprove the certificate request. Because of the invention features described in connection with Figures 19a, 19b, 19c and 19d above, this approval step can only be taken by an individual associated with one of the Approver Email Addresses offered by the Issuer based on the selected algorithms, thereby enhancing authenticity and security in the certificate issuance process. See Figure 22.

[0060] If the Approver approves the request, the Approver (and others, such as the other contact persons listed in the original Enrollment Form) receives an automated notice confirming the approval. See Figure 23. Because of the invention features described in connection with Figures 19a, 19b, 19c and 19d above, this approval message will necessarily be sent to an individual associated with one of the Approver Email Addresses offered by the Issuer based on the selected algorithms, thereby enhancing authenticity and security in the certificate issuance process.

[0061] If the Approver approves the certificate request, the Issuer's Certificate Authority automatically and dynamically generates the certificate and sends it by email to the Approver (and others, in accordance with the particular embodiment, such as the other contact persons listed in the original Enrollment Form). See Figure 24.

[0062] A sample automated message transmitting the digital certificate is shown as Figure 24. The message may also contain instructions or hyperlinks to instructions for installation. Because of the invention features described in connection with Figures 19a, 19b, 19c and 19d above, a copy of this certificate transmittal message will necessarily be sent to an individual associated with one of the Approver Email Addresses offered by the Issuer based on the selected algorithms, thereby enhancing authenticity and security in the certificate issuance process.

[0063] If the Approver disapproves the request, the Approver (and others, such as the other contact persons listed in the original Enrollment Form) receives an automated notice confirming the disapproval. See Figure 25. Because of the invention features described in connection with Figures 19a, 19b, 19c and 19d above, this disapproval message will necessarily be sent to an individual associated with one of the Approver Email Addresses offered by the Issuer based on the selected algorithms, thereby enhancing authenticity and security in the certificate issuance process. In the process described in Figures 23, 24 and 25, if the Approver rejects the request, they can not later approve it.

If they approve it, they can not later reject it. The state is changed.

ADDITIONAL EMBODIMENTS

[0064] Alternative process feature: The Enrollment Form can request payment information (e.g., credit card information) from the Requestor, and the process can automatically and dynamically check for payment authorization and post the charge upon approval of the certificate request by the Approver. As a further alternative, information gained through the automatic payment process can be used for comparison and/or verification of other information contained in the Enrollment Form and/or CSR, and further process decisioning (e.g., accept or reject) can be based on specific algorithms.

[0065] Having now described preferred embodiments of the invention, it should be apparent to those skilled in the art that the foregoing is illustrative only and not limiting, having been presented by way of example only. All the features disclosed in this specification (including any accompanying claims, abstract, and drawings) may be replaced by alternative features serving the same purpose, and equivalents or similar purpose, unless expressly stated otherwise. Therefore, numerous other embodiments of the modifications thereof are contemplated as falling within the scope of the present invention as defined by the appended claims and equivalents thereto.

[0066] For example, the techniques may be implemented in hardware or software, or a combination of the two. Preferably, the techniques are implemented in computer programs executing on programmable computers that each include a processor, a storage medium readable by the processor (including volatile and non-volatile memory and/or storage elements), at least one input device and one or more output devices. Program code is applied to data entered using the input device to perform the functions described and to generate output information. The output information is applied to one or more output devices.

[0067] Each program is preferably implemented in a high level procedural or object oriented programming language to communicate with a computer system, however, the programs can be implemented in assembly or machine language or other computer language, if desired. In any case, the language may be a compiled or interpreted language.

STILL ADDITIONAL EMBODIMENTS OF THE PRESENT INVENTION

[0068] In another embodiment of the present invention the Requestor may engage a partner of the CA to assist in obtaining the certificate for the Requestor. The partner may perform varying levels of the ordering process workflow.

[0069] A telephone verification step could be added to the process where by the person requesting the certificate, or the

Approver are called via a computer program and asked to enter some information that is displayed on the web browser. The intent of this is to collect another verified piece of information - the phone number (in addition to the Approver e-mail address) to reduce risk and improve security while at the same time making this an automated, quick process. The person called may be requested to say something that is then recorded by the system. This voice print can be used later to verify user identity if needed (for example, by law enforcement). At the very least, a voice recording further inhibits attempts at fraud.

[0070] For example, when the Requestor gets to the order summary page and presses confirm a new page is displayed with a code (PIN) on it and some instructions. They are asked to be ready for a phone call at the specified phone number (entered as part of the contact information earlier, or from a corporate data registry (DUNS or similar), or from the WhoIs server data, or other sources). They agree, then the system calls them and asks them to enter the PIN into the phone when prompted. They are also asked to say their name and other information which is recorded for later use. The phone system passes this PIN back to the enrollment engine where the values are compared. If successful, the system has verified that the Requestor is at the particular phone number and this creates a better audit trail for finding this person later and reduces the risk of fraud.

[0080] If the Approver is the individual to be called (as opposed to the Requestor as described above), the phone call would be performed after they receive their Approver e-mail, come to the Approver site, review the order and press the Approve button. At that point the system would call them and perform the verification. If successful, the system would then issue the certificate.

[0081] Another embodiment of the present invention would also employ corporate registration data. A record for each order/company in a public registration database would be created or accessed with a globally unique identifier with user disclosed information about them or their company - much like DUNs numbers today (www.dnb.com). This is currently a perceived important aspect of traditional vetting where companies are highly encouraged to get a DUNs number by self-reporting some information about the company. This would preferrably be a globally unique ID that can be used to track the certificate back to some additional identifying profile information.

[0082] This profile data would be linked to and from the certificate (which would have the number included, and probably the URL to the data), and perhaps elsewhere at the CA. Users would be able to opt-out of this data being published if they desired. The CA would collect the information, post to this repository, create or obtain the globally unique number, and include it in the certificate for the user. Currently users need to go and do this prior to requesting the certificate, so this is a quicker, easier process. Finally, if users have a number already, they can enter it during enrollment and the CA would link to that previously registered entity.

[0083] Use of DNS server ownership for verifying domain-control. In the case a CA partner is hosting the Requestor's web site, such service normally includes entering and maintaining the DNS entry. This is a mapping between the domain name and the IP address where the server actually resides. Every web connection made by a browser looks up the domain name in a DNS server, obtains the IP address, and then connects to that IP address. If an entity has has control over the DNS server for this domain, it has control over the domain.

[0084] If a request for a certified for domain name "domain.com" is from a partner (Partner A), the CA can do a DNS look-up and find the authoritative DNS server for this domain. The CA can compare this with the list of DNS servers registered with us for Partner A. If they match, the CA can automatically approve the request, generate the certificate and e-mail to the requestor, tech, billing and Partner A registered contact, or send an approval e-mail to a previously registered e-mail address for Partner A. As before, it should also be noted that alternately, instant messaging or other such electronic communication means could be implemented in addition to or in place of email technology for this aspect to the present invention.

[0085] Each such computer program is preferably stored on a storage medium or device (e.g., CD-ROM, hard disk or magnetic diskette) that is readable by a general or special purpose programmable computer for configuring and operating the computer when the storage medium or device is read by the computer to perform the procedures described in this document. The system may also be considered to be implemented as a computer-readable storage medium, configured with a computer program, where the storage medium so configured causes a computer to operate in a specific and predefined manner. For illustrative purposes the present invention is embodied in the system configuration, method of operation and product or computer-readable medium, such as floppy disks, conventional hard disks, CD-ROMS, Flash ROMS, nonvolatile ROM, RAM and any other equivalent computer memory device. It will be appreciated that the system, method of operation and product may vary as to the details of its configuration and operation without departing from the basic concepts disclosed herein.

CLAIMS

We claim:

1. A computer system for automated identification, processing and issuance of digital web server certificates, wherein domain-control vetting is employed in the identification and authorization of a Requestor.

2. A computer system according to claim 1, which functions in accordance with Figure 2.

3. A computer system according to claim 1, which functions in accordance with Figure 26.

4. A computer system according to claim 1, which functions in accordance with Figure 27.

5. A computer system according to claim 1, which functions in accordance with Figures 3a to 14b.

6. A computer system according to claim 1, which functions in accordance with Figures 15a to 25.

7. A computer system for automated identification, processing and issuance of digital certificates comprising:

   a. means for a Requestor to request a web server certificate from a certificate authority;

   b. means for the certificate authority to receive the request;

   c. means for the certificate authority to obtain domain information for a domain for which the certificate is being requested;

   d. means for generating Approver email addresses from the domain information;

   e. means for the Requestor to select Approver email address or addresses;

   f. means for the certificate authority to contact the Approver using the selected email address or addresses and requesting that the Approver approve issuance of the certificate;

   g. means for the Approver to deny or approve the request for issuance of the certificate and inform the certificate authority of its denial or approval;

   h. means for the certificate authority to create and sign the certificate;

   i. means for sending the signed certificate to the Requestor.

8. A computerized process for automated identification, processing and issuance of digital certificates, comprising the steps of:

   a. a Requestor requests a web server certificate from a certificate authority;

   b. the certificate authority receives the request;

   c. the certificate authority obtains domain information for the web server;

   d. the certificate authority generates Approver email addresses from the domain information;

   e. the Requestor is requested to select Approver email address or addresses;

   f. the certificate authority contacts the Approver using the selected email address or addresses and requests that the Approver approve issuance of the certificate;

   g. the certificate authority denies the request if not approved or for any other reason;

   h. the certificate authority accepts the request if approved, and creates and signs the certificate;

   i. the signed certificate is sent to the Requestor.

9. A computerized process for automated identification, processing and issuance of digital certificates, wherein web

server domain-control vetting is employed to automatically generate a plurality of mandatory web server Approver email addresses for selection by the certificate Requestor.

10. A computer process according to claim 9, wherein the mandatory web server Approver email addresses are determined in accordance with the process shown in Figure 2.

11. A computer process according to claim 9, wherein the mandatory web server Approver email addresses are determined in accordance with the process shown in Figure 26.

12. A computer process according to claim 9, wherein the mandatory web server Approver email addresses are determined in accordance with the process shown in Figure 27.

13. A computer process according to claim 9, wherein the mandatory web server Approver email addresses are determined in accordance with the process shown in Figures 3a to 14b.

14. A computer process according to claim 9, wherein the mandatory web server Approver email addresses are determined in accordance with the process shown in Figures Figures 15a to 25.

15. A computer system for automated identification, processing and issuance of digital certificates comprising:

a. means for a Requestor to request a web server certificate from a certificate authority;

b. means for the certificate authority to receive the request;

c. means for generating Approver email addresses by pre-appending a mail box name to the 2, 3, 4, ... N component domain of the certificate being requested;

d. means for the Requestor to select Approver email address or addresses;

e. means for the certificate authority to contact the Approver using the selected email address or addresses and requesting that the Approver approve issuance of the certificate;

f. means for the certificate authority to deny the request;

g. means for the certificate authority to accept the request, create and sign the certificate;

h. means for sending the signed certificate to the Requestor.

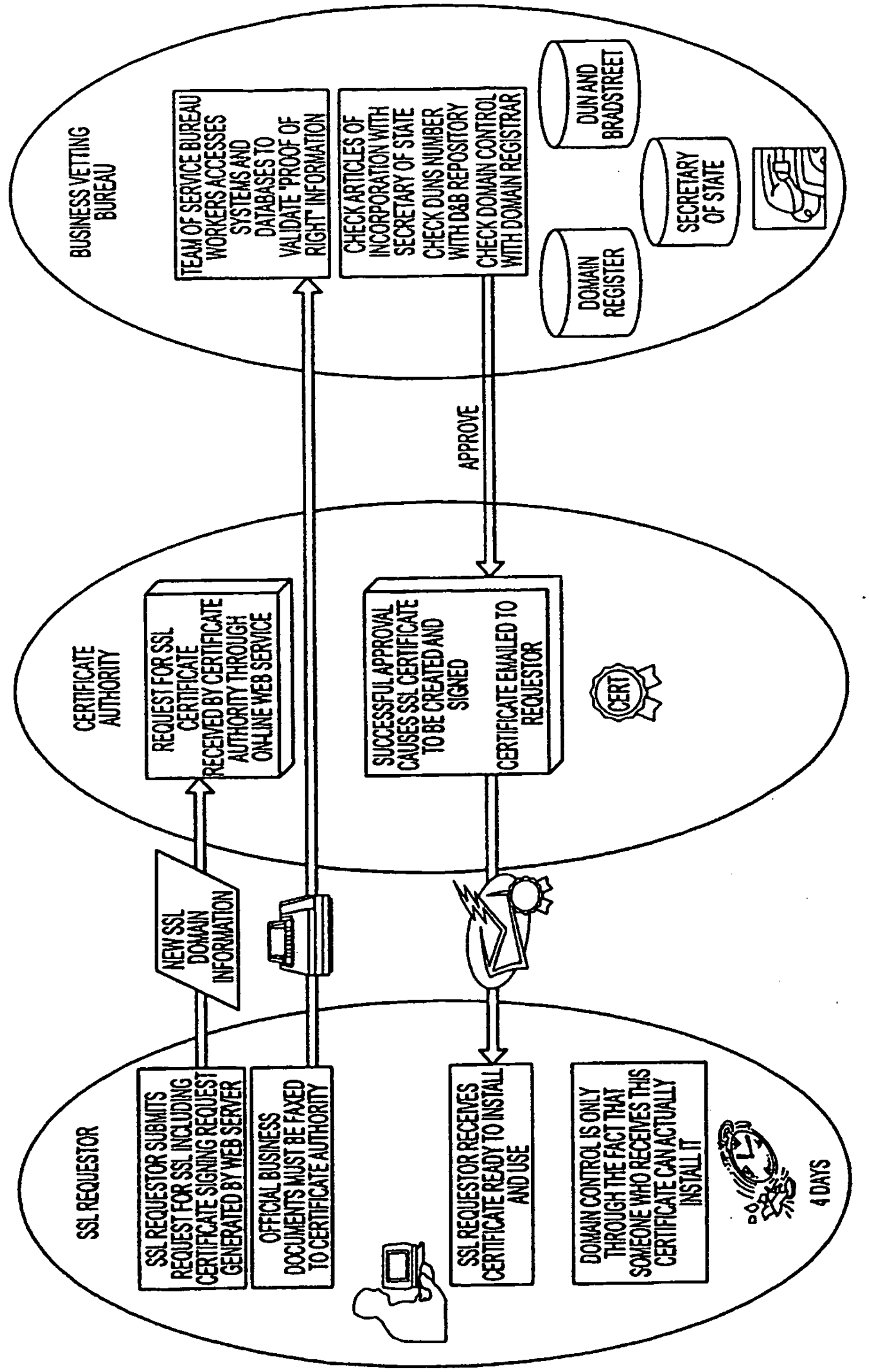

SSL REQUESTOR
SSL REQUESTOR SUBMITS REQUEST FOR SSL INCLUDING CERTIFICATE SIGNING REQUEST GENERATED BY WEB SERVER
OFFICIAL BUSINESS DOCUMENTS MUST BE FAXED TO CERTIFICATE AUTHORITY
SSL REQUESTOR RECEIVES CERTIFICATE READY TO INSTALL AND USE
DOMAIN CONTROL IS ONLY THROUGH THE FACT THAT SOMEONE WHO RECEIVES THIS CERTIFICATE CAN ACTUALLY INSTALL IT
4 DAYS
NEW SSL DOMAIN INFORMATION
CERTIFICATE AUTHORITY
REQUEST FOR SSL CERTIFICATE RECEIVED BY CERTIFICATE AUTHORITY THROUGH ON-LINE WEB SERVICE
SUCCESSFUL APPROVAL CAUSES SSL CERTIFICATE TO BE CREATED AND SIGNED
CERTIFICATE EMAILED TO REQUESTOR
CERT
APPROVE
BUSINESS VETTING BUREAU
TEAM OF SERVICE BUREAU WORKERS ACCESSES SYSTEMS AND DATABASES TO VALIDATE "PROOF OF RIGHT" INFORMATION
CHECK ARTICLES OF INCORPORATION WITH SECRETARY OF STATE
CHECK DUNS NUMBER WITH D&B REPOSITORY
CHECK DOMAIN CONTROL WITH DOMAIN REGISTRAR
DOMAIN REGISTER
SECRETARY OF STATE
DUN AND BRADSTREET

FIG. 1

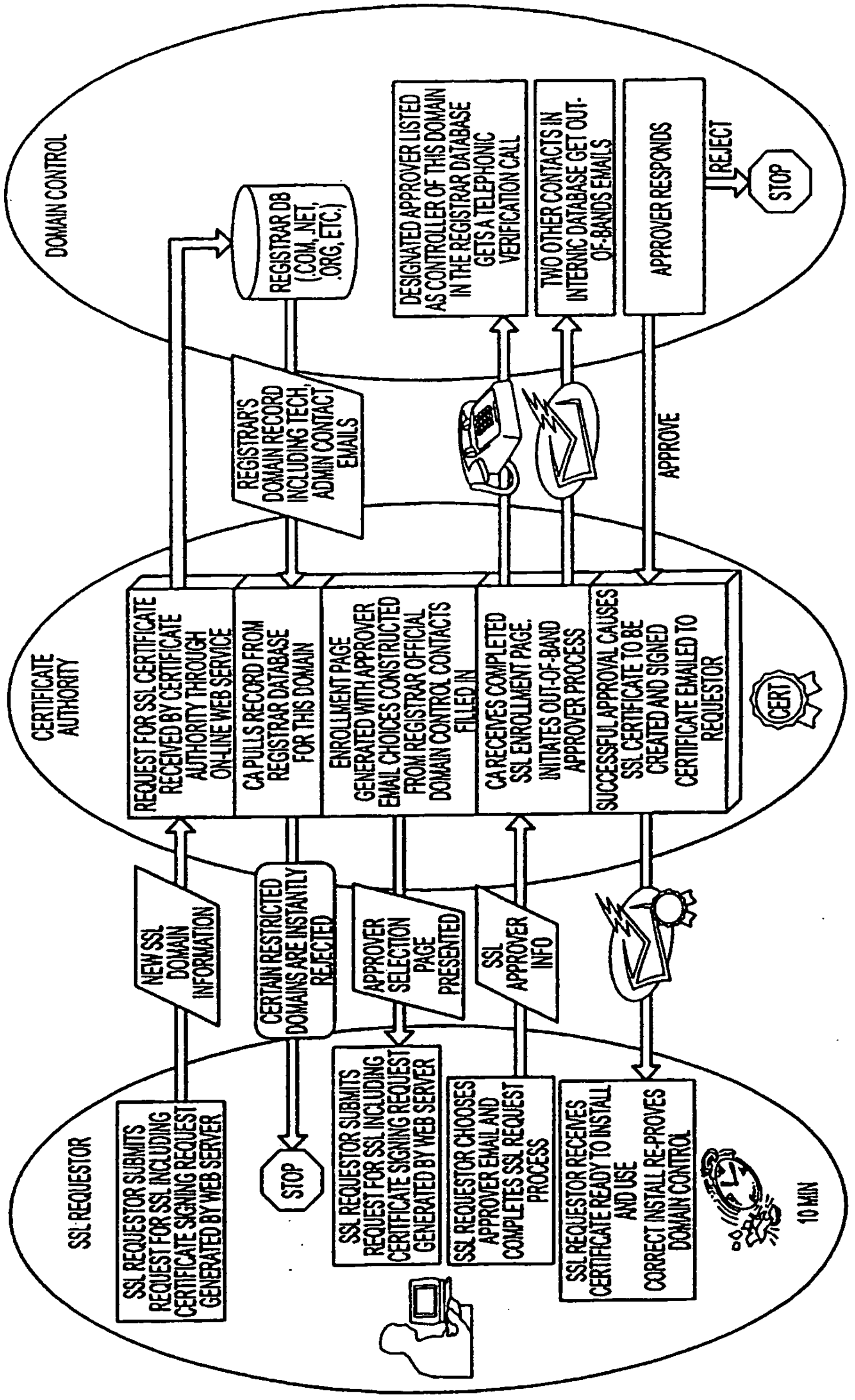
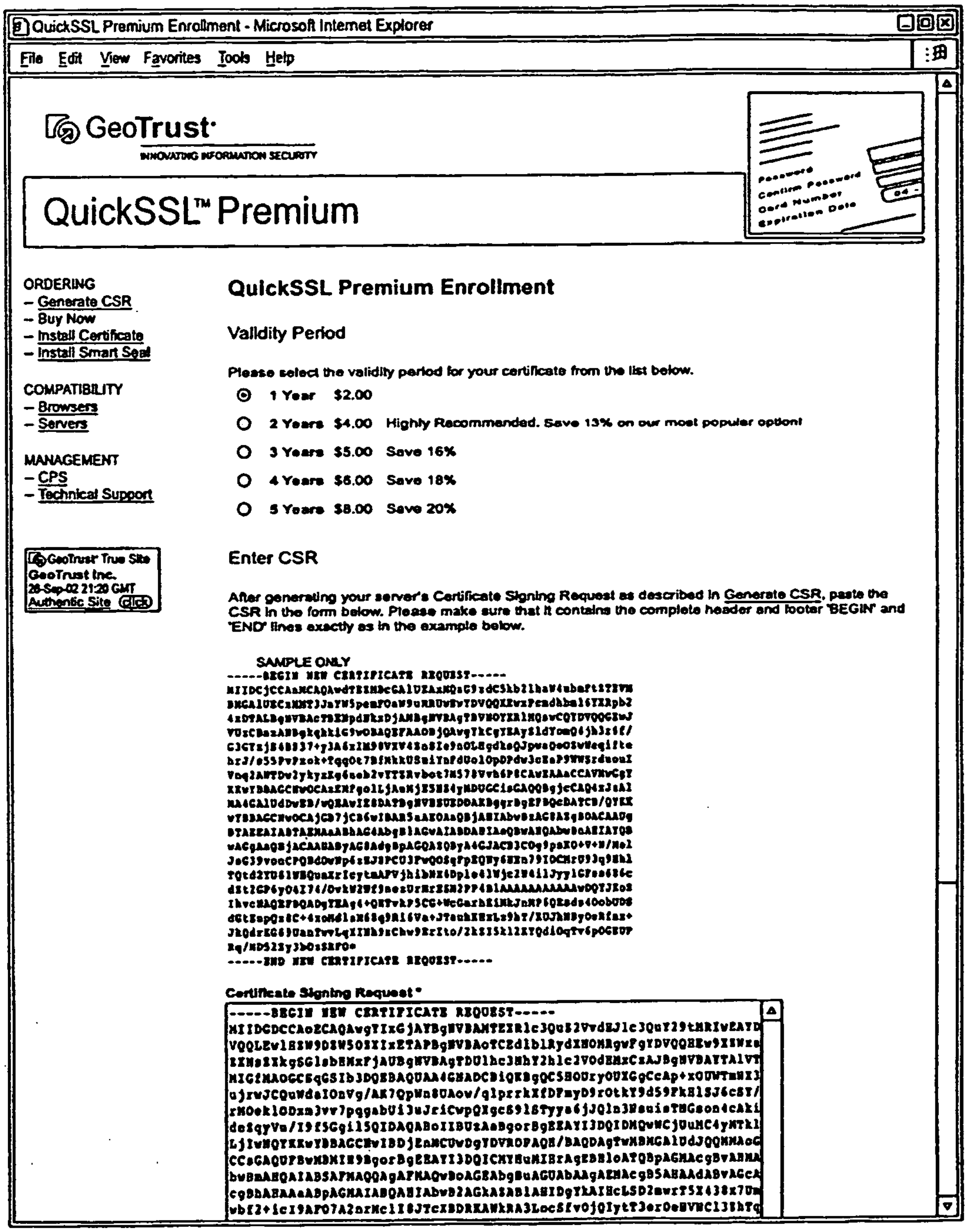

SSL REQUESTOR
SSL REQUESTOR SUBMITS REQUEST FOR SSL INCLUDING CERTIFICATE SIGNING REQUEST GENERATED BY WEB SERVER
STOP
SSL REQUESTOR SUBMITS REQUEST FOR SSL INCLUDING CERTIFICATE SIGNING REQUEST GENERATED BY WEB SERVER
SSL REQUESTOR CHOOSES APPROVER EMAIL AND COMPLETES SSL REQUEST PROCESS
SSL REQUESTOR RECEIVES CERTIFICATE READY TO INSTALL AND USE
CORRECT INSTALL RE-PROVES DOMAIN CONTROL
10 MIN
NEW SSL DOMAIN INFORMATION
CERTAIN RESTRICTED DOMAINS ARE INSTANTLY REJECTED
APPROVER SELECTION PAGE PRESENTED
SSL APPROVER INFO
CERTIFICATE AUTHORITY
REQUEST FOR SSL CERTIFICATE RECEIVED BY CERTIFICATE AUTHORITY THROUGH ON-LINE WEB SERVICE
CA PULLS RECORD FROM REGISTRAR DATABASE FOR THIS DOMAIN
ENROLLMENT PAGE GENERATED WITH APPROVER EMAIL CHOICES CONSTRUCTED FROM REGISTRAR OFFICIAL DOMAIN CONTROL CONTACTS FILLED IN
CA RECEIVES COMPLETED SSL ENROLLMENT PAGE. INITIATES OUT-OF-BAND APPROVER PROCESS
SUCCESSFUL APPROVAL CAUSES SSL CERTIFICATE TO BE CREATED AND SIGNED CERTIFICATE EMAILED TO REQUESTOR
CERT
REGISTRAR'S DOMAIN RECORD INCLUDING TECH, ADMIN CONTACT EMAILS
APPROVE
DOMAIN CONTROL
REGISTRAR DB (.COM, .NET, .ORG, ETC.)
DESIGNATED APPROVER LISTED AS CONTROLLER OF THIS DOMAIN IN THE REGISTRAR DATABASE GETS A TELEPHONIC VERIFICATION CALL
TWO OTHER CONTACTS IN INTERNIC DATABASE GET OUT-OF-BANDS EMAILS
APPROVER RESPONDS
REJECT
STOP

FIG. 2



QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust
INNOVATING INFORMATION SECURITY
QuickSSL™ Premium
Password
Confirm Password
Card Number
Expiration Date
04

ORDERING
- Generate CSR
- Buy Now
- Install Certificate
- Install Smart Seal

COMPATIBILITY
- Browsers
- Servers

MANAGEMENT
- CPS
- Technical Support

GeoTrust True Site
GeoTrust Inc.
28-Sep-02 21:20 GMT
Authentic Site Click

QuickSSL Premium Enrollment

Validity Period

Please select the validity period for your certificate from the list below.

●	1 Year	$2.00	
○	2 Years	$4.00	Highly Recommended. Save 13% on our most popular option!
○	3 Years	$5.00	Save 16%
○	4 Years	$6.00	Save 18%
○	5 Years	$8.00	Save 20%

Enter CSR

After generating your server's Certificate Signing Request as described in Generate CSR, paste the CSR in the form below. Please make sure that it contains the complete header and footer 'BEGIN' and 'END' lines exactly as in the example below.

SAMPLE ONLY

```
-----BEGIN NEW CERTIFICATE REQUEST-----
MIIDCjCCAnMCAQAwdTEiMBcGA1UEAxMQaG9zdC5kb21haW4ubmFtZTEVM
BMGA1UECxMMT3JnYW5pemF0aW9uRRUwEwYDVQQKEwxPcmdhbml6YXRpb2
4xDTALBgNVBAcTBENpdHkxDjAMBgNVBAgTBVN0YXRlMQswCQYDVQQGEwJ
VUzCBnzANBgkqhkiG9w0BAQEFAAOBjQAwgYkCgYEAy8ldYom06jh3z6f/
GJCTzjB4BB37+yJA6zIM90VXV4Ro8Ie9nOL8gdkeQJpwaOeO8vWeqiIte
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-----END NEW CERTIFICATE REQUEST-----
```

Certificate Signing Request *

```
-----BEGIN NEW CERTIFICATE REQUEST-----
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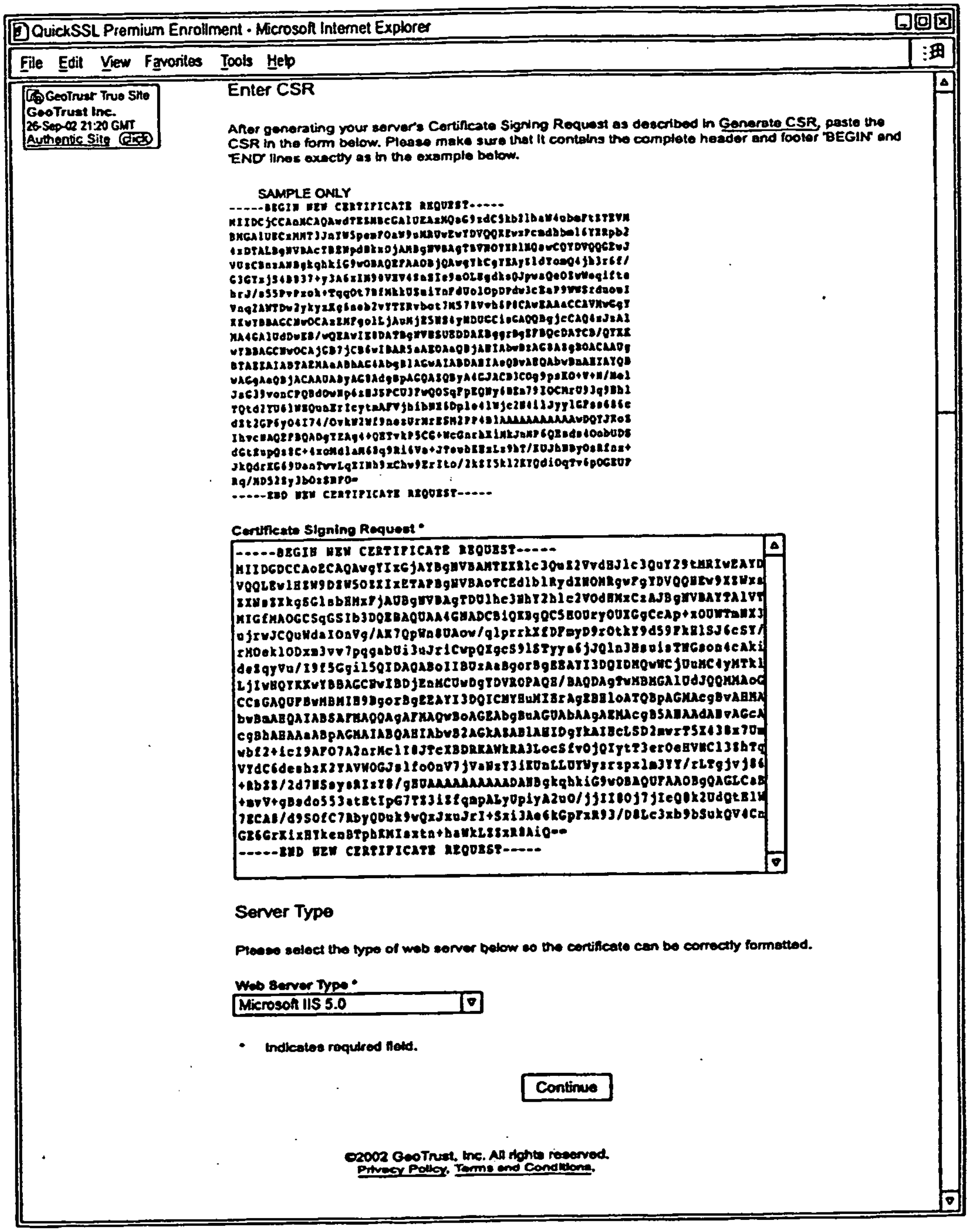
FIG. 3a



QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust True Site
GeoTrust Inc.
26-Sep-02 21:20 GMT
Authentic Site click

Enter CSR

After generating your server's Certificate Signing Request as described in Generate CSR, paste the CSR in the form below. Please make sure that it contains the complete header and footer 'BEGIN' and 'END' lines exactly as in the example below.

SAMPLE ONLY

```
-----BEGIN NEW CERTIFICATE REQUEST-----
MIIDCjCCAnMCAQAwdTELMBcGA1UEAxMQaG9zdC5kb21haW4ubmFtZTEVM
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-----END NEW CERTIFICATE REQUEST-----
```

Certificate Signing Request *

```
-----BEGIN NEW CERTIFICATE REQUEST-----
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GE6GrKixHYkenBTphKMIaxtn+haWkLZZxR8AiQ==
-----END NEW CERTIFICATE REQUEST-----
```

Server Type

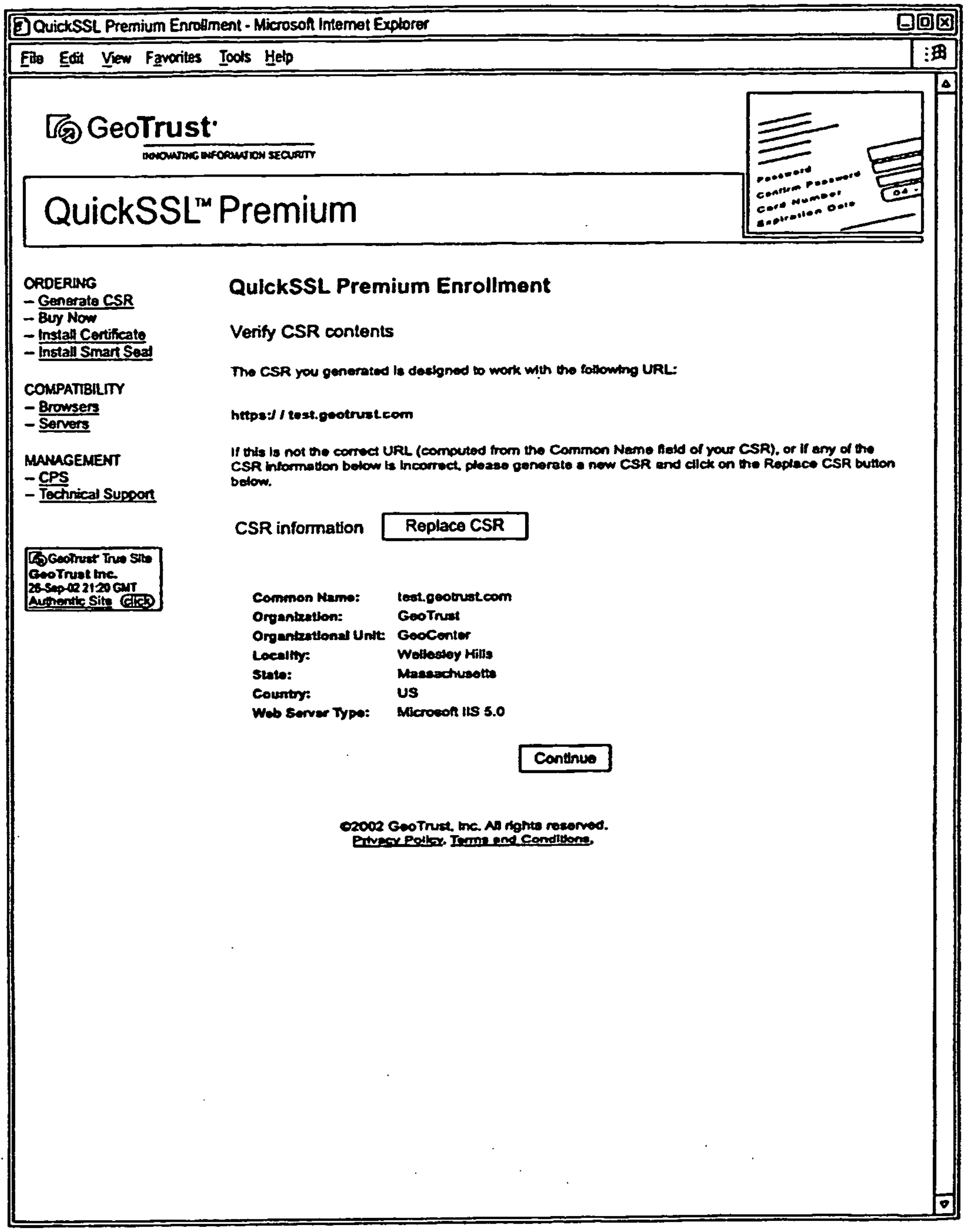
Please select the type of web server below so the certificate can be correctly formatted.

Web Server Type *
Microsoft IIS 5.0

* indicates required field.

Privacy Policy, Terms and Conditions.

FIG. 3b


QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust
INNOVATING INFORMATION SECURITY
Password
Confirm Password
Card Number
Expiration Date
04

QuickSSL™ Premium

ORDERING
- Generate CSR
- Buy Now
- Install Certificate
- Install Smart Seal

COMPATIBILITY
- Browsers
- Servers

MANAGEMENT
- CPS
- Technical Support

GeoTrust True Site
GeoTrust Inc.
26-Sep-02 21:20 GMT
Authentic Site click

QuickSSL Premium Enrollment

Verify CSR contents

The CSR you generated is designed to work with the following URL:

https:/ / test.geotrust.com

If this is not the correct URL (computed from the Common Name field of your CSR), or if any of the CSR information below is incorrect, please generate a new CSR and click on the Replace CSR button below.

CSR information Replace CSR

Common Name:	test.geotrust.com
Organization:	GeoTrust
Organizational Unit:	GeoCenter
Locality:	Wellesley Hills
State:	Massachusetts
Country:	US
Web Server Type:	Microsoft IIS 5.0

Continue

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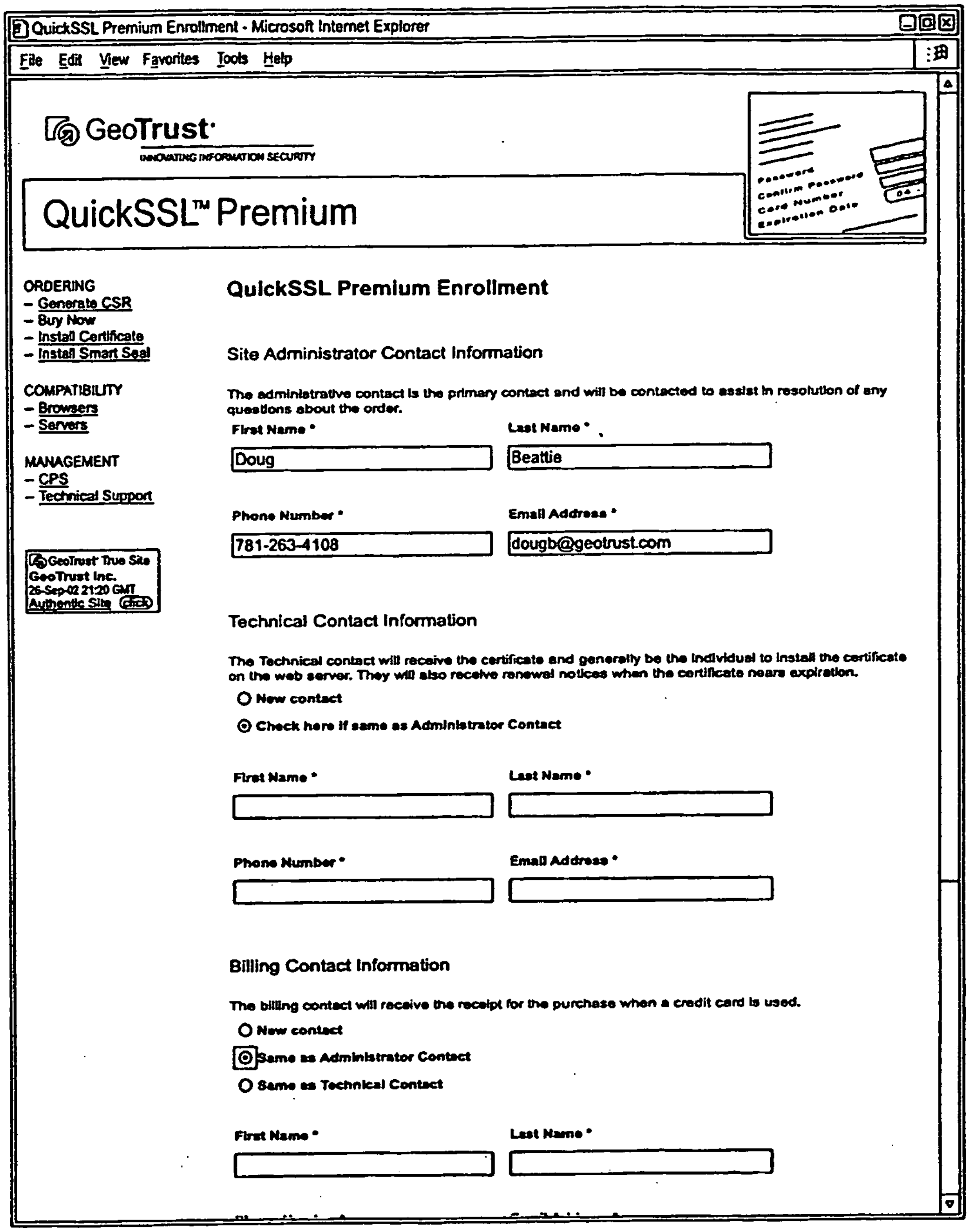
Privacy Policy, Terms and Conditions.

FIG. 4



QuickSSL Premium Enrollment

Site Administrator Contact Information

The administrative contact is the primary contact and will be contacted to assist in resolution of any questions about the order.

First Name * Doug

Last Name * Beattie

Phone Number * 781-263-4108

Email Address * dougb@geotrust.com

Technical Contact Information

The Technical contact will receive the certificate and generally be the individual to install the certificate on the web server. They will also receive renewal notices when the certificate nears expiration.

○ New contact

● Check here if same as Administrator Contact

First Name *

Last Name *

Phone Number *

Email Address *

Billing Contact Information

The billing contact will receive the receipt for the purchase when a credit card is used.

○ New contact

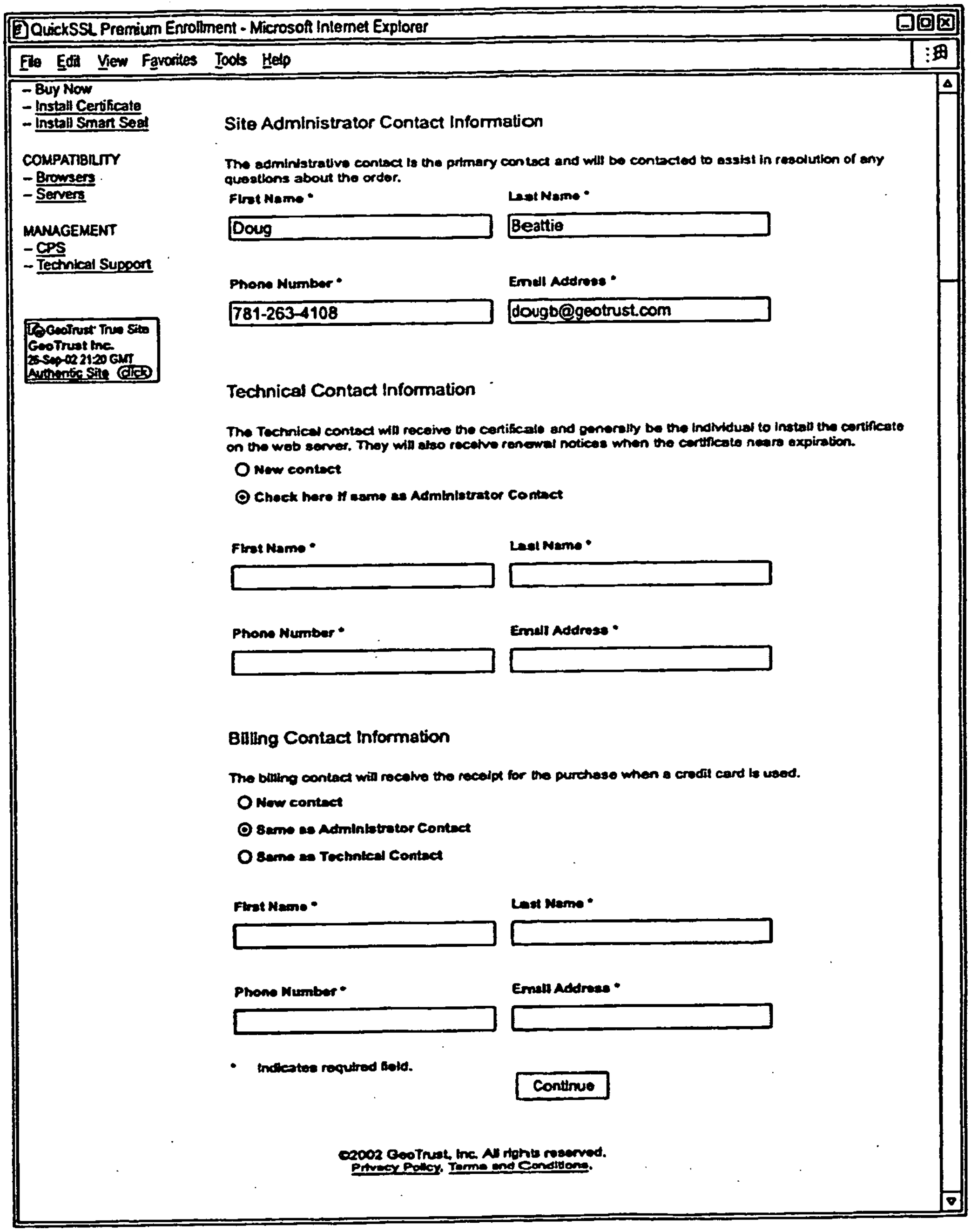
● Same as Administrator Contact

○ Same as Technical Contact

First Name *

Last Name *

FIG. 5a



Site Administrator Contact Information

The administrative contact is the primary contact and will be contacted to assist in resolution of any questions about the order.

First Name *	Last Name *
Doug	Beattie
Phone Number *	Email Address *
781-263-4108	dougb@geotrust.com

Technical Contact Information

The Technical contact will receive the certificate and generally be the individual to install the certificate on the web server. They will also receive renewal notices when the certificate nears expiration.

○ New contact

● Check here if same as Administrator Contact

First Name *	Last Name *
Phone Number *	Email Address *

Billing Contact Information

The billing contact will receive the receipt for the purchase when a credit card is used.

○ New contact

● Same as Administrator Contact

○ Same as Technical Contact

First Name *	Last Name *
Phone Number *	Email Address *

* Indicates required field.

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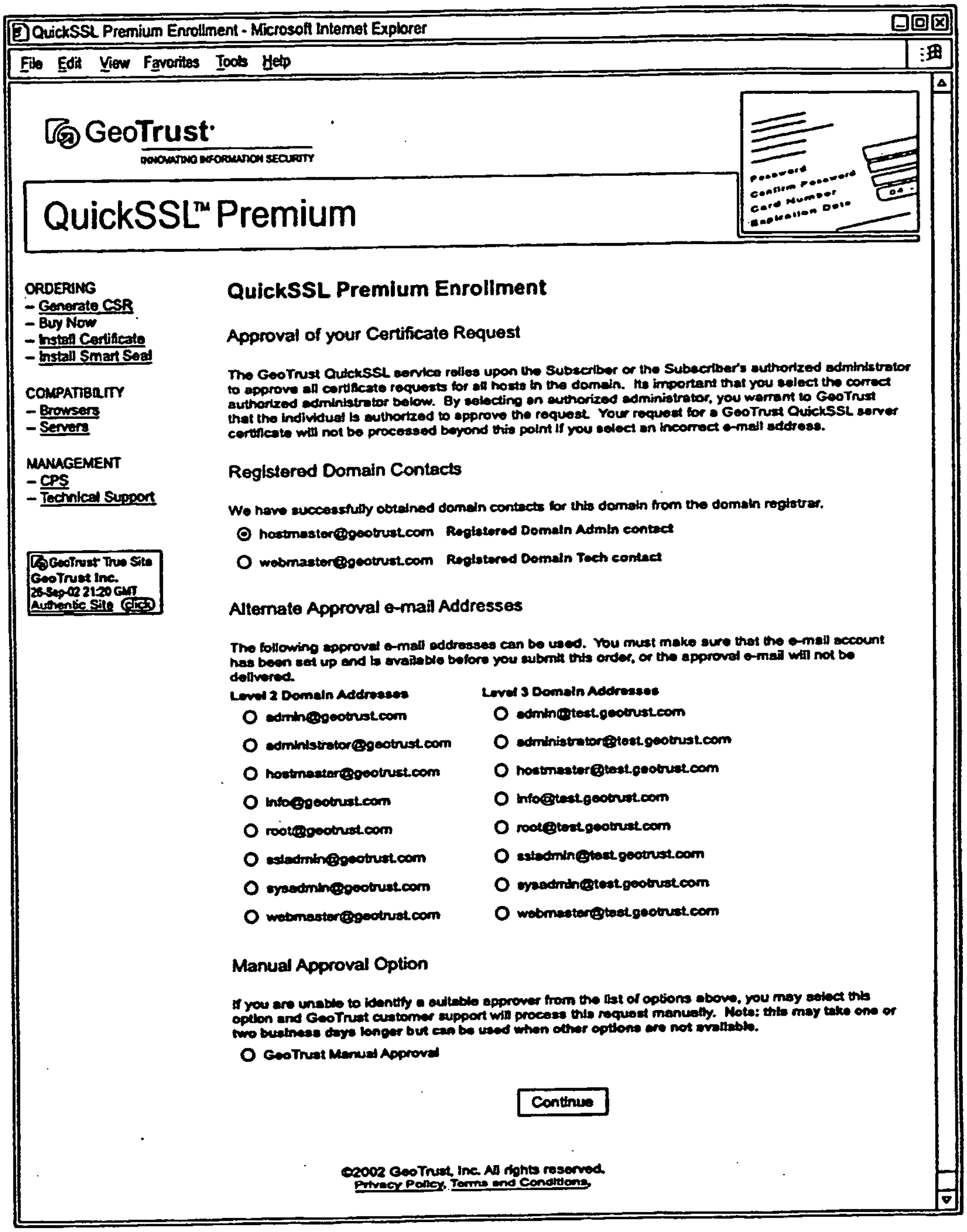
FIG. 5b



QuickSSL Premium Enrollment

Approval of your Certificate Request

The GeoTrust QuickSSL service relies upon the Subscriber or the Subscriber's authorized administrator to approve all certificate requests for all hosts in the domain. Its important that you select the correct authorized administrator below. By selecting an authorized administrator, you warrant to GeoTrust that the individual is authorized to approve the request. Your request for a GeoTrust QuickSSL server certificate will not be processed beyond this point if you select an incorrect e-mail address.

Registered Domain Contacts

We have successfully obtained domain contacts for this domain from the domain registrar.

◉ hostmaster@geotrust.com Registered Domain Admin contact

○ webmaster@geotrust.com Registered Domain Tech contact

Alternate Approval e-mail Addresses

The following approval e-mail addresses can be used. You must make sure that the e-mail account has been set up and is available before you submit this order, or the approval e-mail will not be delivered.

Level 2 Domain Addresses	Level 3 Domain Addresses
○ admin@geotrust.com	○ admin@test.geotrust.com
○ administrator@geotrust.com	○ administrator@test.geotrust.com
○ hostmaster@geotrust.com	○ hostmaster@test.geotrust.com
○ info@geotrust.com	○ info@test.geotrust.com
○ root@geotrust.com	○ root@test.geotrust.com
○ ssladmin@geotrust.com	○ ssladmin@test.geotrust.com
○ sysadmin@geotrust.com	○ sysadmin@test.geotrust.com
○ webmaster@geotrust.com	○ webmaster@test.geotrust.com

Manual Approval Option

If you are unable to identify a suitable approver from the list of options above, you may select this option and GeoTrust customer support will process this request manually. Note: this may take one or two business days longer but can be used when other options are not available.

○ GeoTrust Manual Approval

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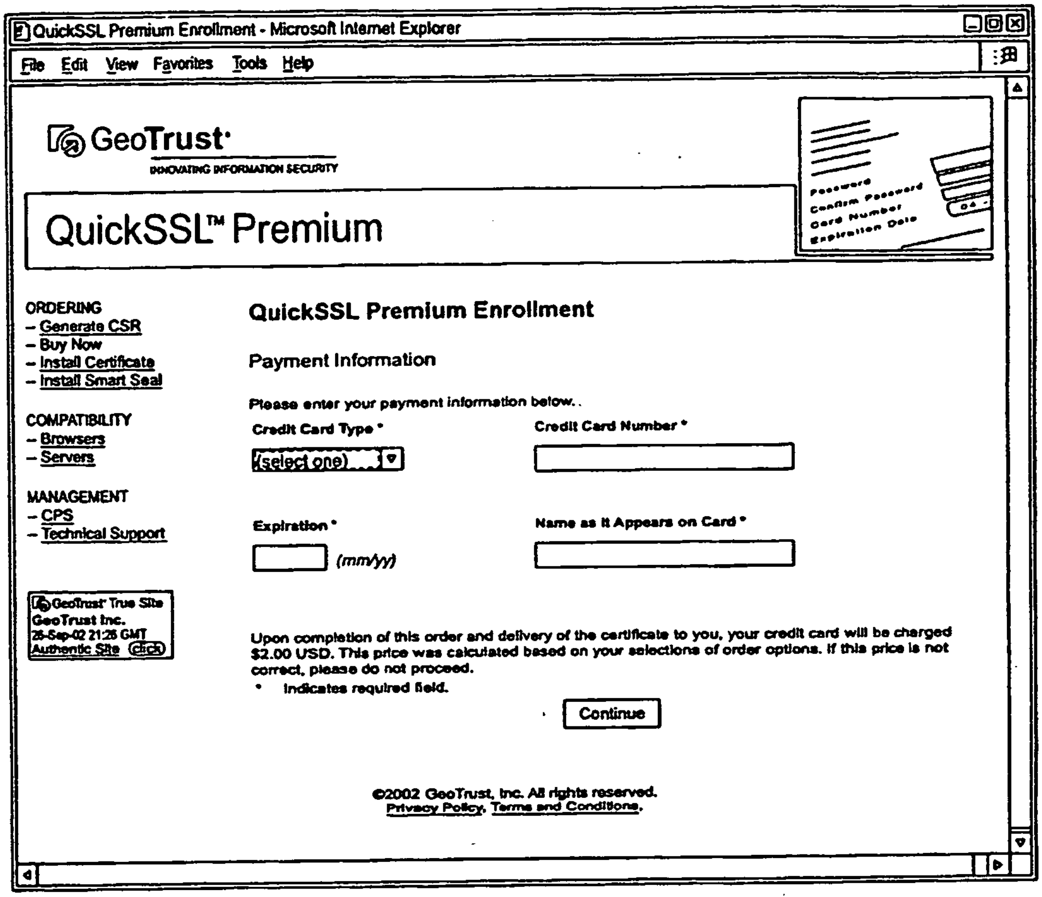
FIG. 6


QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust
INNOVATING INFORMATION SECURITY
Password
Confirm Password
Card Number
Expiration Date
04

QuickSSL™ Premium

ORDERING
- Generate CSR
- Buy Now
- Install Certificate
- Install Smart Seal

COMPATIBILITY
- Browsers
- Servers

MANAGEMENT
- CPS
- Technical Support

GeoTrust True Site
GeoTrust Inc.
26-Sep-02 21:26 GMT
Authentic Site click

QuickSSL Premium Enrollment

Payment Information

Please enter your payment information below..

Credit Card Type * (select one)

Credit Card Number *

Expiration * (mm/yy)

Name as it Appears on Card *

Upon completion of this order and delivery of the certificate to you, your credit card will be charged $2.00 USD. This price was calculated based on your selections of order options. If this price is not correct, please do not proceed.

- Indicates required field.

Continue

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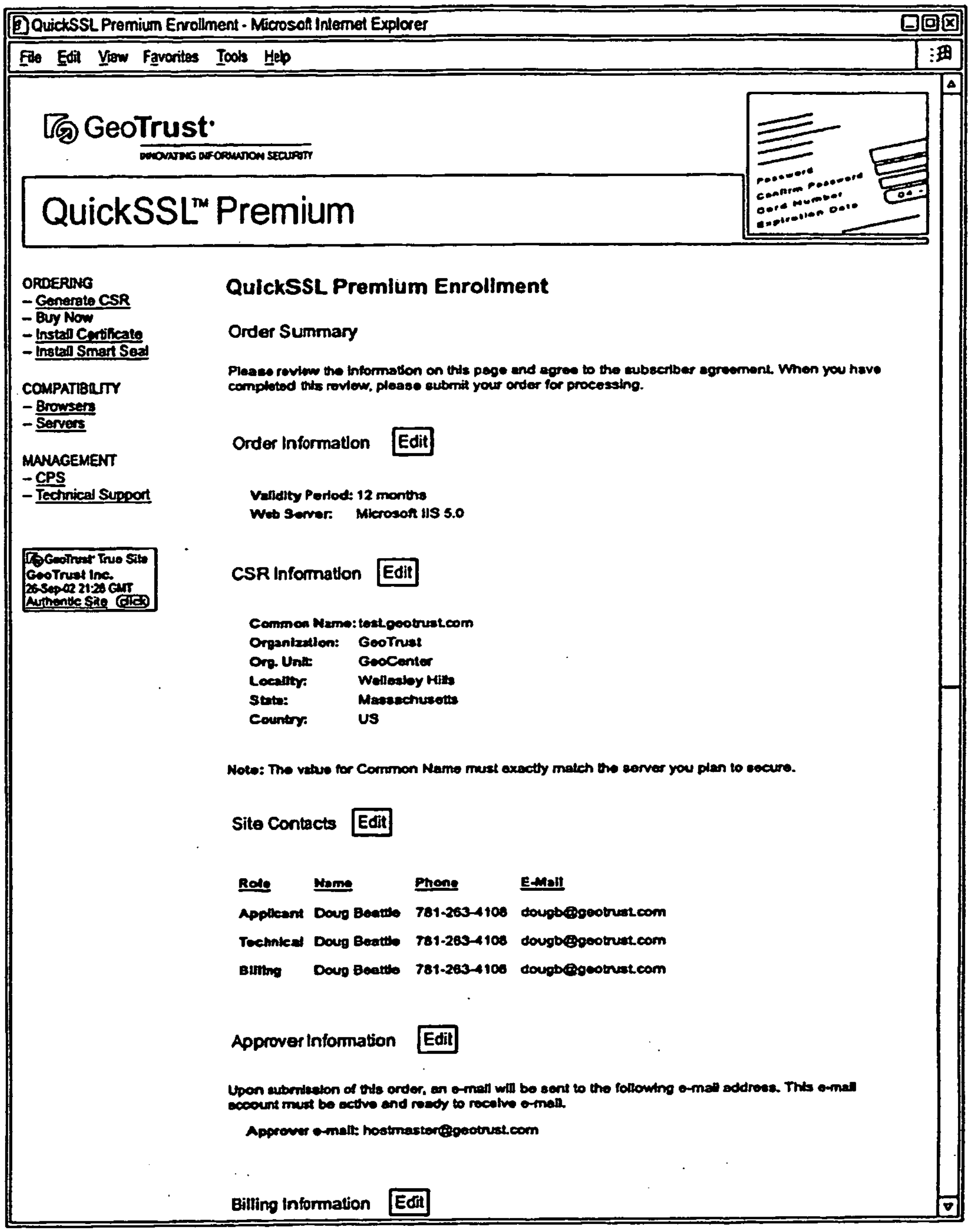
Privacy Policy, Terms and Conditions.

FIG. 7



QuickSSL Premium Enrollment

Order Summary

Please review the information on this page and agree to the subscriber agreement. When you have completed this review, please submit your order for processing.

Order Information Edit

Validity Period: 12 months
Web Server: Microsoft IIS 5.0

CSR Information Edit

Common Name:	test.geotrust.com
Organization:	GeoTrust
Org. Unit:	GeoCenter
Locality:	Wellesley Hills
State:	Massachusetts
Country:	US

Note: The value for Common Name must exactly match the server you plan to secure.

Site Contacts Edit

Role	Name	Phone	E-Mail
Applicant	Doug Beattie	781-263-4108	dougb@geotrust.com
Technical	Doug Beattie	781-263-4108	dougb@geotrust.com
Billing	Doug Beattie	781-263-4108	dougb@geotrust.com

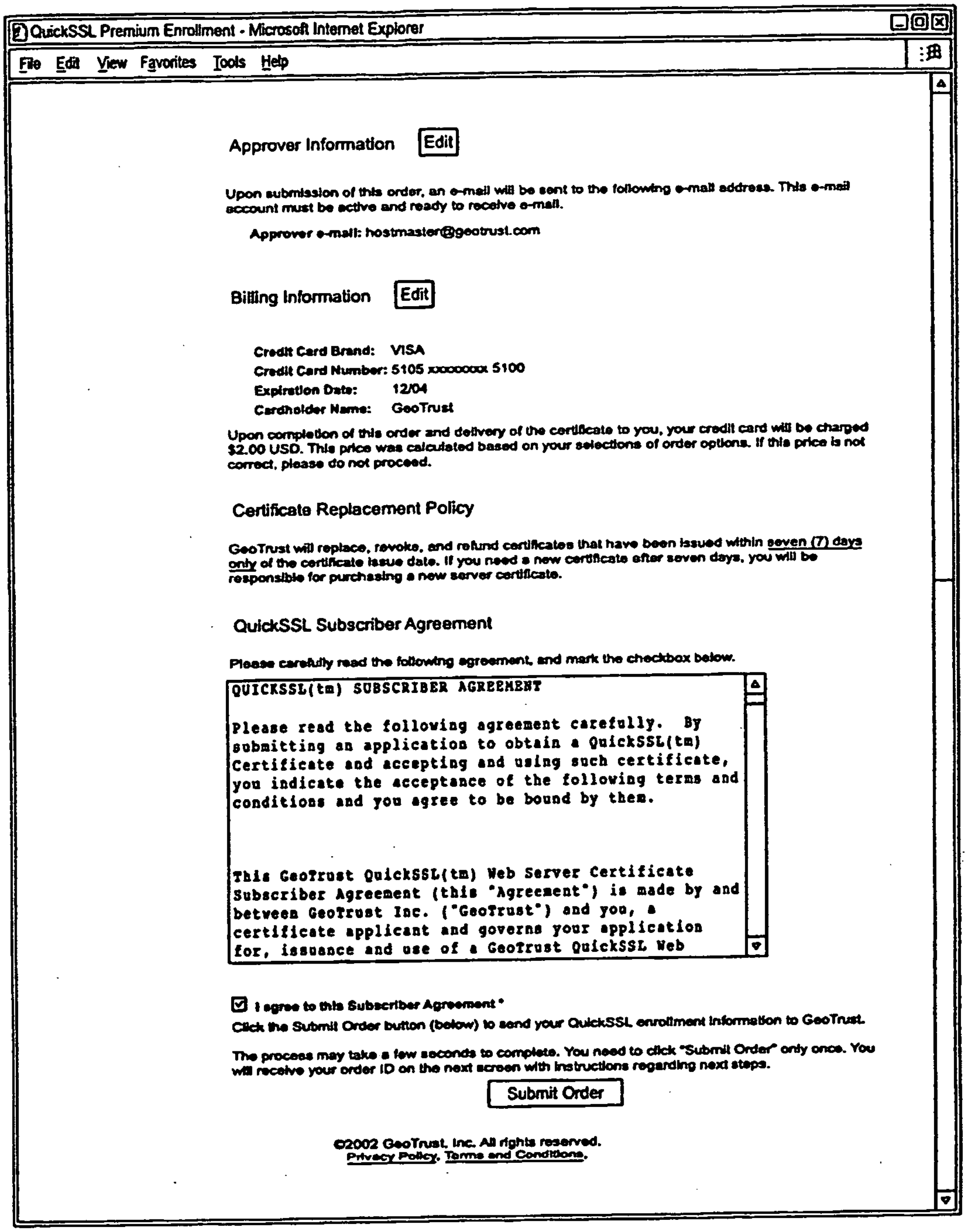
Approver Information Edit

Upon submission of this order, an e-mail will be sent to the following e-mail address. This e-mail account must be active and ready to receive e-mail.

Approver e-mail: hostmaster@geotrust.com

Billing Information Edit

FIG. 8a


QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help

Approver Information [Edit]

Upon submission of this order, an e-mail will be sent to the following e-mail address. This e-mail account must be active and ready to receive e-mail.

Approver e-mail: hostmaster@geotrust.com

Billing Information [Edit]

Credit Card Brand:	VISA
Credit Card Number:	5105 xxxxxxxx 5100
Expiration Date:	12/04
Cardholder Name:	GeoTrust

Upon completion of this order and delivery of the certificate to you, your credit card will be charged $2.00 USD. This price was calculated based on your selections of order options. If this price is not correct, please do not proceed.

Certificate Replacement Policy

GeoTrust will replace, revoke, and refund certificates that have been issued within seven (7) days only of the certificate issue date. If you need a new certificate after seven days, you will be responsible for purchasing a new server certificate.

QuickSSL Subscriber Agreement

Please carefully read the following agreement, and mark the checkbox below.

```
QUICKSSL(tm) SUBSCRIBER AGREEMENT

Please read the following agreement carefully.  By
submitting an application to obtain a QuickSSL(tm)
Certificate and accepting and using such certificate,
you indicate the acceptance of the following terms and
conditions and you agree to be bound by them.



This GeoTrust QuickSSL(tm) Web Server Certificate
Subscriber Agreement (this "Agreement") is made by and
between GeoTrust Inc. ("GeoTrust") and you, a
certificate applicant and governs your application
for, issuance and use of a GeoTrust QuickSSL Web
```

☑ I agree to this Subscriber Agreement *

Click the Submit Order button (below) to send your QuickSSL enrollment information to GeoTrust.

The process may take a few seconds to complete. You need to click "Submit Order" only once. You will receive your order ID on the next screen with instructions regarding next steps.

[Submit Order]

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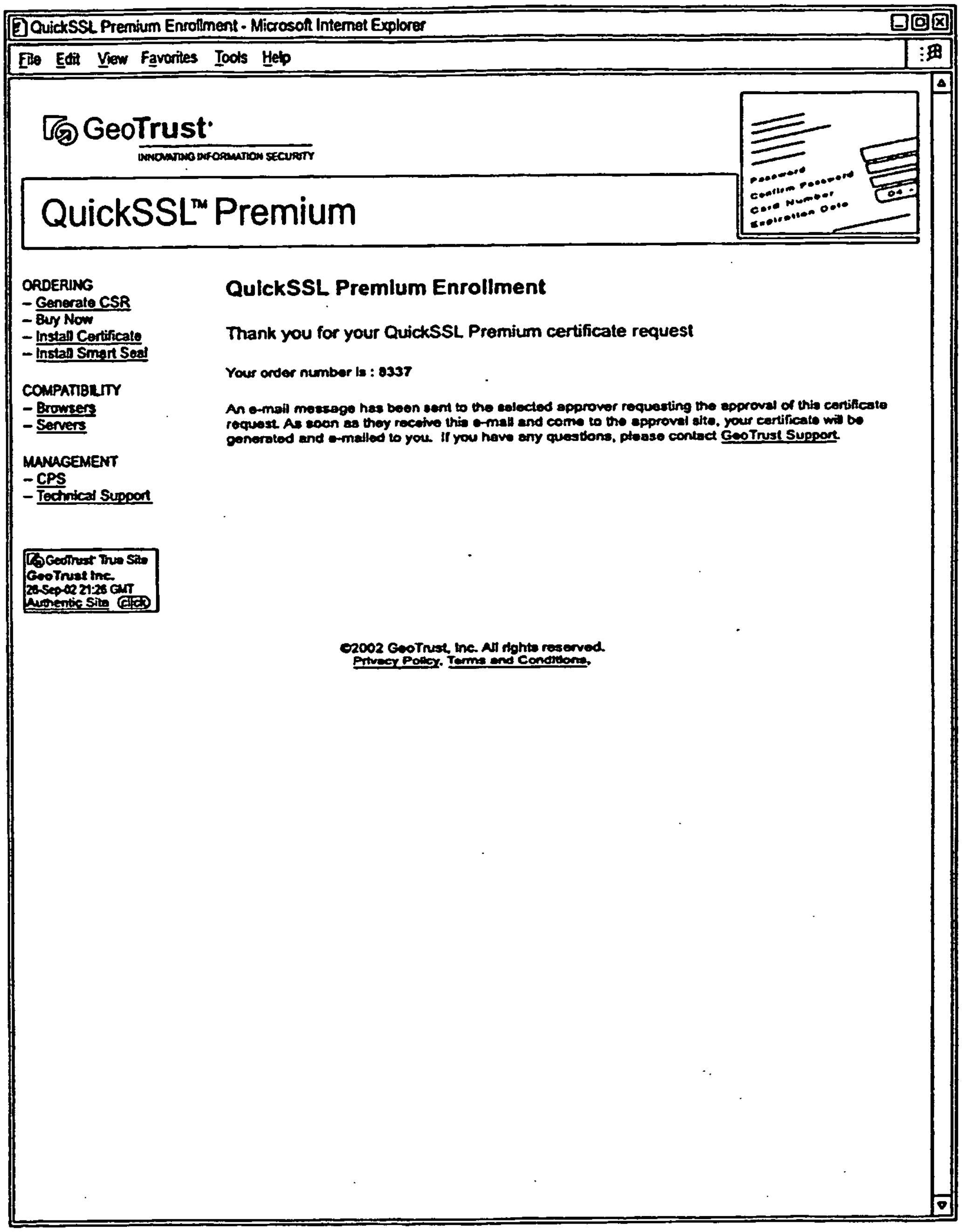
FIG. 8b


QuickSSL Premium Enrollment - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust
INNOVATING INFORMATION SECURITY
Password
Confirm Password
Card Number
Expiration Date
04

QuickSSL™ Premium

QuickSSL Premium Enrollment

Thank you for your QuickSSL Premium certificate request

Your order number is : 8337

An e-mail message has been sent to the selected approver requesting the approval of this certificate request. As soon as they receive this e-mail and come to the approval site, your certificate will be generated and e-mailed to you. If you have any questions, please contact GeoTrust Support.

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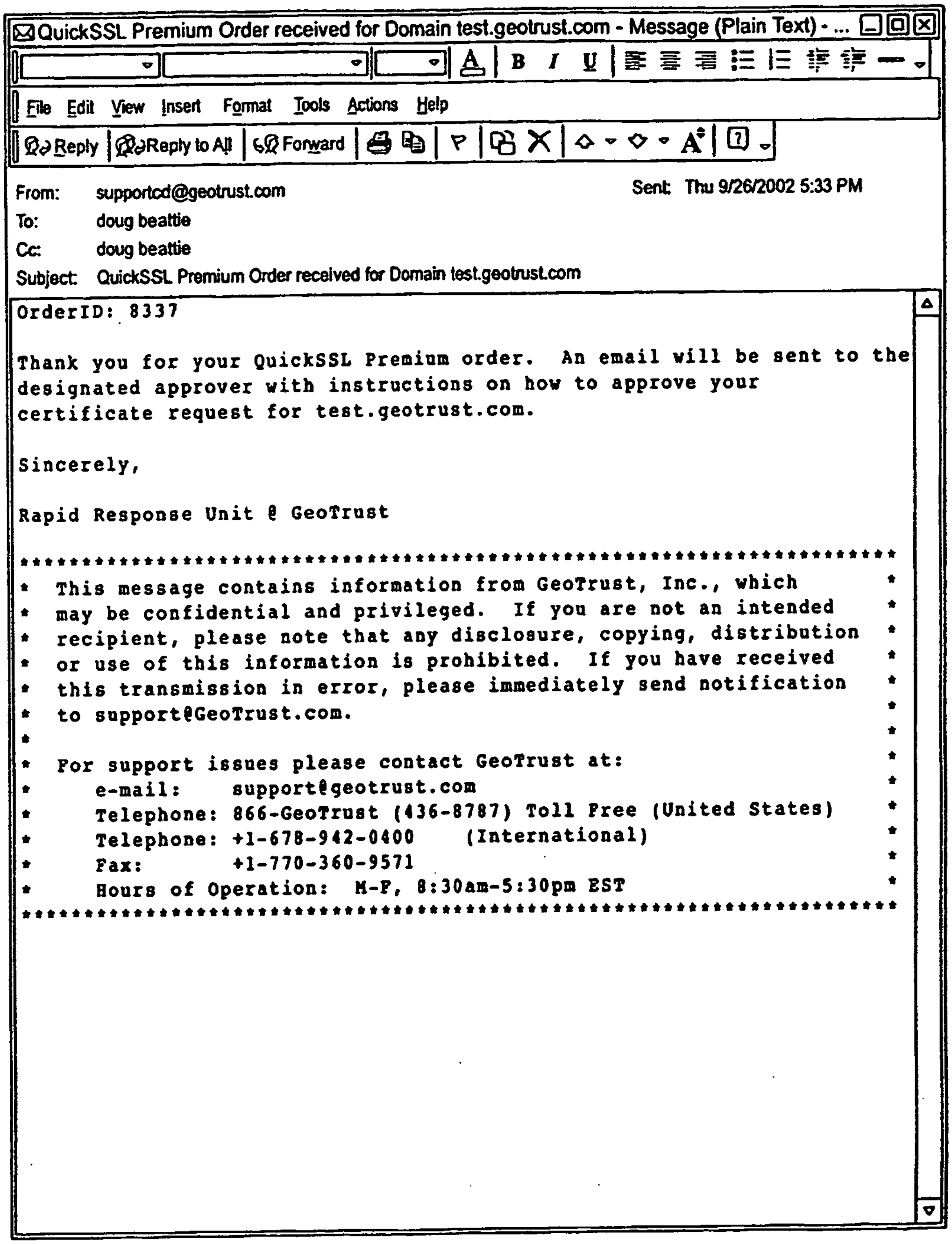
FIG. 9


QuickSSL Premium Order received for Domain test.geotrust.com - Message (Plain Text) - ...
B I U
File Edit View Insert Format Tools Actions Help
Reply
Reply to All
Forward

From: supportcd@geotrust.com Sent: Thu 9/26/2002 5:33 PM
To: doug beattie
Cc: doug beattie
Subject: QuickSSL Premium Order received for Domain test.geotrust.com

```
OrderID: 8337

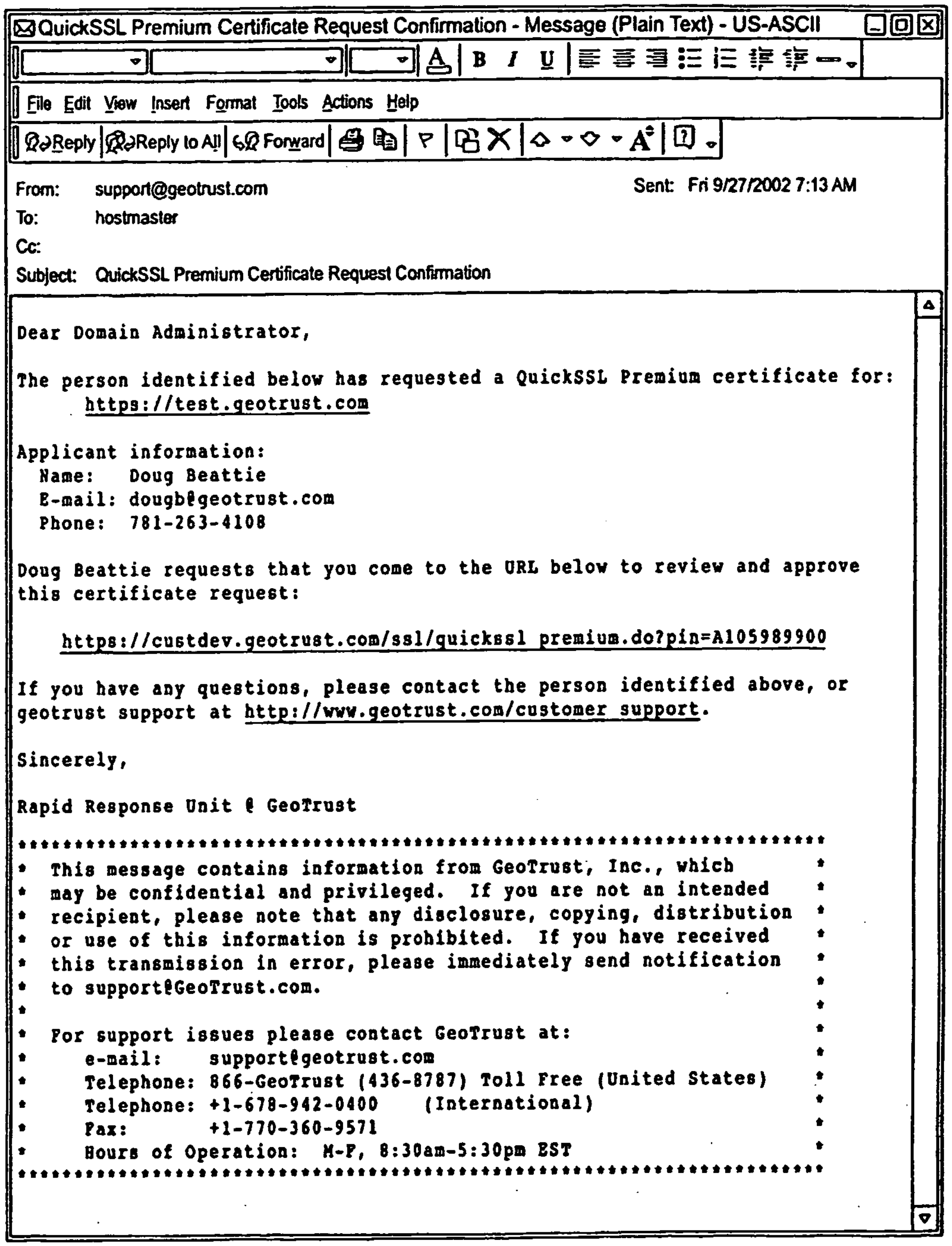
Thank you for your QuickSSL Premium order.  An email will be sent to the
designated approver with instructions on how to approve your
certificate request for test.geotrust.com.

Sincerely,

Rapid Response Unit @ GeoTrust

**********************************************************************
*  This message contains information from GeoTrust, Inc., which      *
*  may be confidential and privileged.  If you are not an intended   *
*  recipient, please note that any disclosure, copying, distribution *
*  or use of this information is prohibited.  If you have received   *
*  this transmission in error, please immediately send notification  *
*  to support@GeoTrust.com.                                          *
*                                                                    *
*  For support issues please contact GeoTrust at:                    *
*     e-mail:    support@geotrust.com                                *
*     Telephone: 866-GeoTrust (436-8787) Toll Free (United States)   *
*     Telephone: +1-678-942-0400     (International)                 *
*     Fax:       +1-770-360-9571                                     *
*     Hours of Operation:  M-F, 8:30am-5:30pm EST                    *
**********************************************************************
```

FIG. 10


QuickSSL Premium Certificate Request Confirmation - Message (Plain Text) - US-ASCII
B I U
File Edit View Insert Format Tools Actions Help
Reply
Reply to All
Forward

From: support@geotrust.com Sent: Fri 9/27/2002 7:13 AM
To: hostmaster
Cc:
Subject: QuickSSL Premium Certificate Request Confirmation

```
Dear Domain Administrator,

The person identified below has requested a QuickSSL Premium certificate for:
      https://test.geotrust.com

Applicant information:
  Name:   Doug Beattie
  E-mail: dougb@geotrust.com
  Phone:  781-263-4108

Doug Beattie requests that you come to the URL below to review and approve
this certificate request:

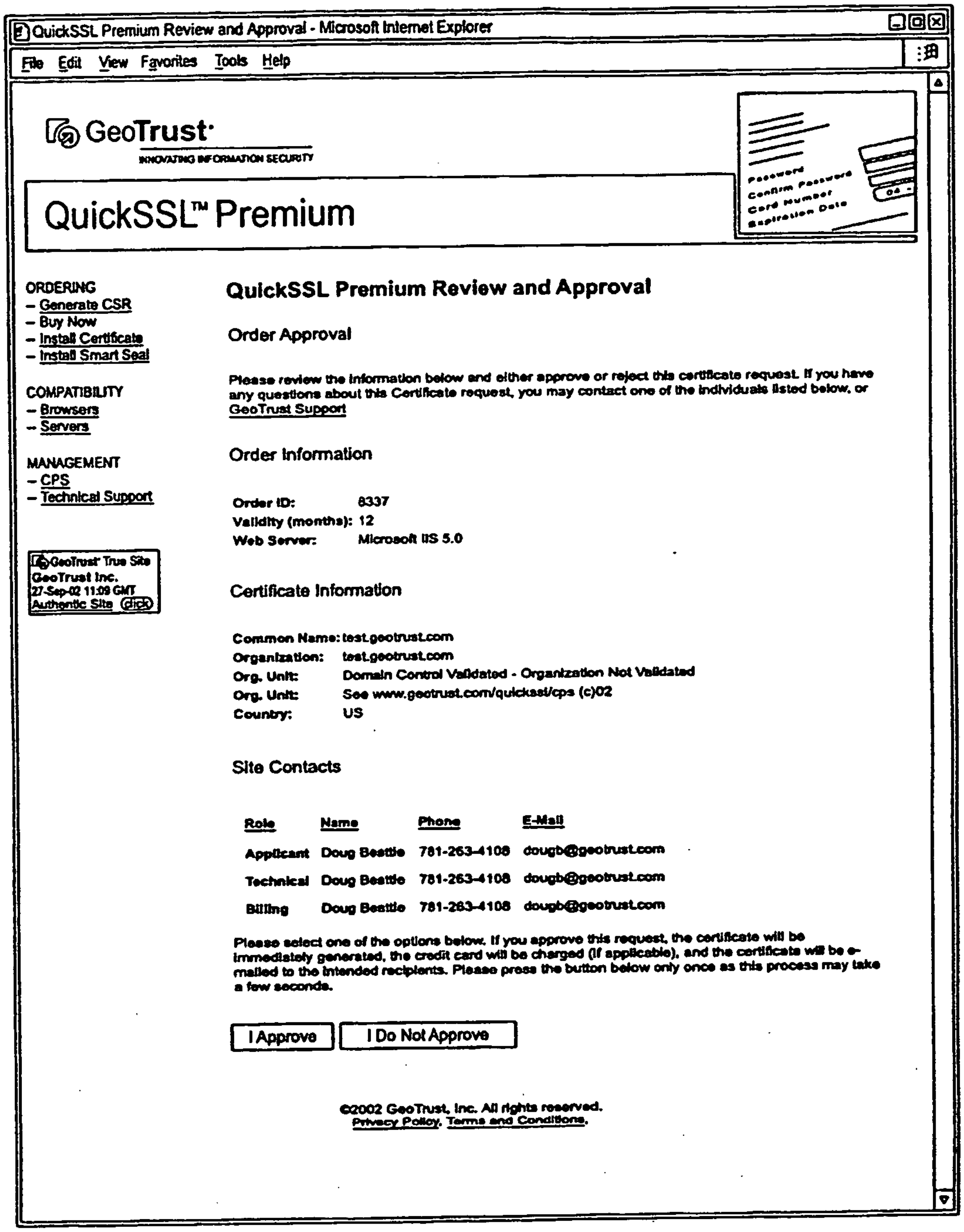
    https://custdev.geotrust.com/ssl/quickssl premium.do?pin=A105989900

If you have any questions, please contact the person identified above, or
geotrust support at http://www.geotrust.com/customer support.

Sincerely,

Rapid Response Unit @ GeoTrust
**********************************************************************
*  This message contains information from GeoTrust, Inc., which      *
*  may be confidential and privileged.  If you are not an intended   *
*  recipient, please note that any disclosure, copying, distribution *
*  or use of this information is prohibited.  If you have received   *
*  this transmission in error, please immediately send notification  *
*  to support@GeoTrust.com.                                          *
*                                                                    *
*  For support issues please contact GeoTrust at:                    *
*     e-mail:    support@geotrust.com                                *
*     Telephone: 866-GeoTrust (436-8787) Toll Free (United States)   *
*     Telephone: +1-678-942-0400    (International)                  *
*     Fax:       +1-770-360-9571                                     *
*     Hours of Operation:  M-F, 8:30am-5:30pm EST                    *
**********************************************************************
```

FIG. 11



QuickSSL Premium Review and Approval

Order Approval

Please review the information below and either approve or reject this certificate request. If you have any questions about this Certificate request, you may contact one of the individuals listed below, or GeoTrust Support

Order Information

Order ID:	8337
Validity (months):	12
Web Server:	Microsoft IIS 5.0

Certificate Information

Common Name:	test.geotrust.com
Organization:	test.geotrust.com
Org. Unit:	Domain Control Validated - Organization Not Validated
Org. Unit:	See www.geotrust.com/quickssl/cps (c)02
Country:	US

Site Contacts

Role	Name	Phone	E-Mail
Applicant	Doug Beattie	781-263-4108	dougb@geotrust.com
Technical	Doug Beattie	781-263-4108	dougb@geotrust.com
Billing	Doug Beattie	781-263-4108	dougb@geotrust.com

Please select one of the options below. If you approve this request, the certificate will be immediately generated, the credit card will be charged (if applicable), and the certificate will be e-mailed to the intended recipients. Please press the button below only once as this process may take a few seconds.

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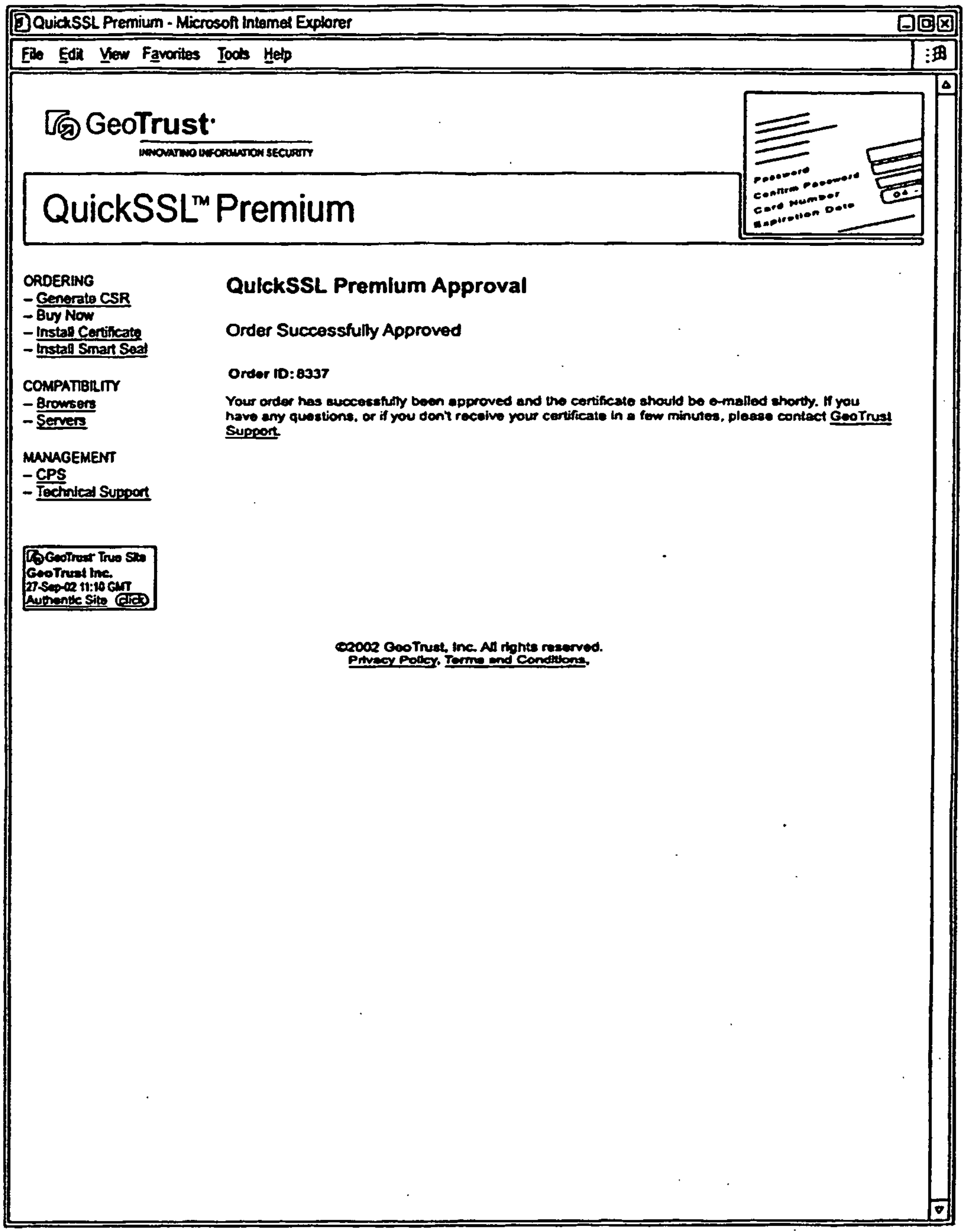
FIG. 12


QuickSSL Premium - Microsoft Internet Explorer
File Edit View Favorites Tools Help
GeoTrust
INNOVATING INFORMATION SECURITY
Password
Confirm Password
Card Number
Expiration Date

QuickSSL™ Premium

ORDERING
- Generate CSR
- Buy Now
- Install Certificate
- Install Smart Seal

COMPATIBILITY
- Browsers
- Servers

MANAGEMENT
- CPS
- Technical Support

GeoTrust True Site
GeoTrust Inc.
27-Sep-02 11:10 GMT
Authentic Site click

QuickSSL Premium Approval

Order Successfully Approved

Order ID: 8337

Your order has successfully been approved and the certificate should be e-mailed shortly. If you have any questions, or if you don't receive your certificate in a few minutes, please contact GeoTrust Support.

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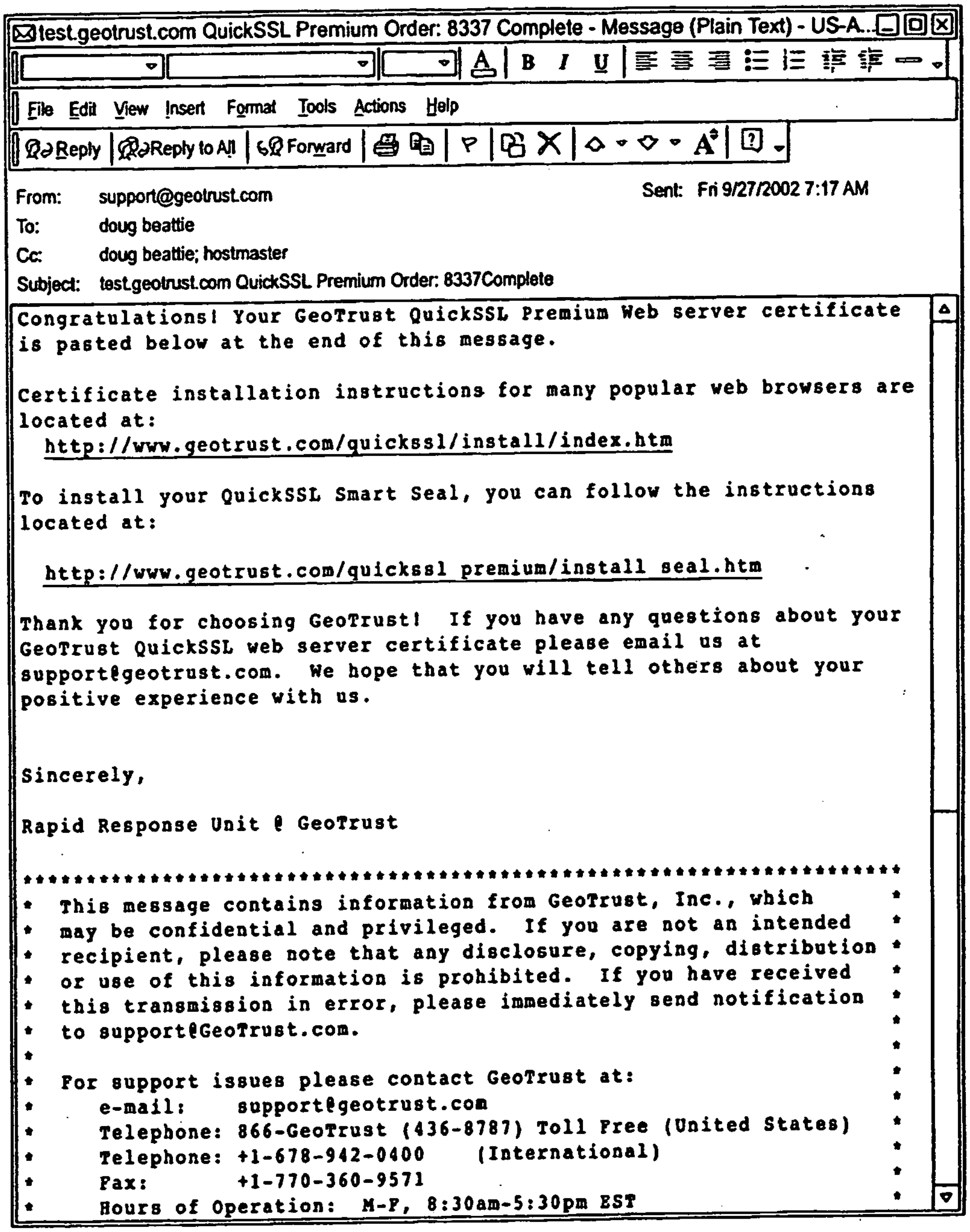
Privacy Policy, Terms and Conditions.

FIG. 13


test.geotrust.com QuickSSL Premium Order: 8337 Complete - Message (Plain Text) - US-A...
A B I U
File Edit View Insert Format Tools Actions Help
Reply Reply to All Forward

From: support@geotrust.com Sent: Fri 9/27/2002 7:17 AM
To: doug beattie
Cc: doug beattie; hostmaster
Subject: test.geotrust.com QuickSSL Premium Order: 8337Complete

```
Congratulations! Your GeoTrust QuickSSL Premium Web server certificate
is pasted below at the end of this message.

Certificate installation instructions for many popular web browsers are
located at:
  http://www.geotrust.com/quickssl/install/index.htm

To install your QuickSSL Smart Seal, you can follow the instructions
located at:

  http://www.geotrust.com/quickssl premium/install seal.htm

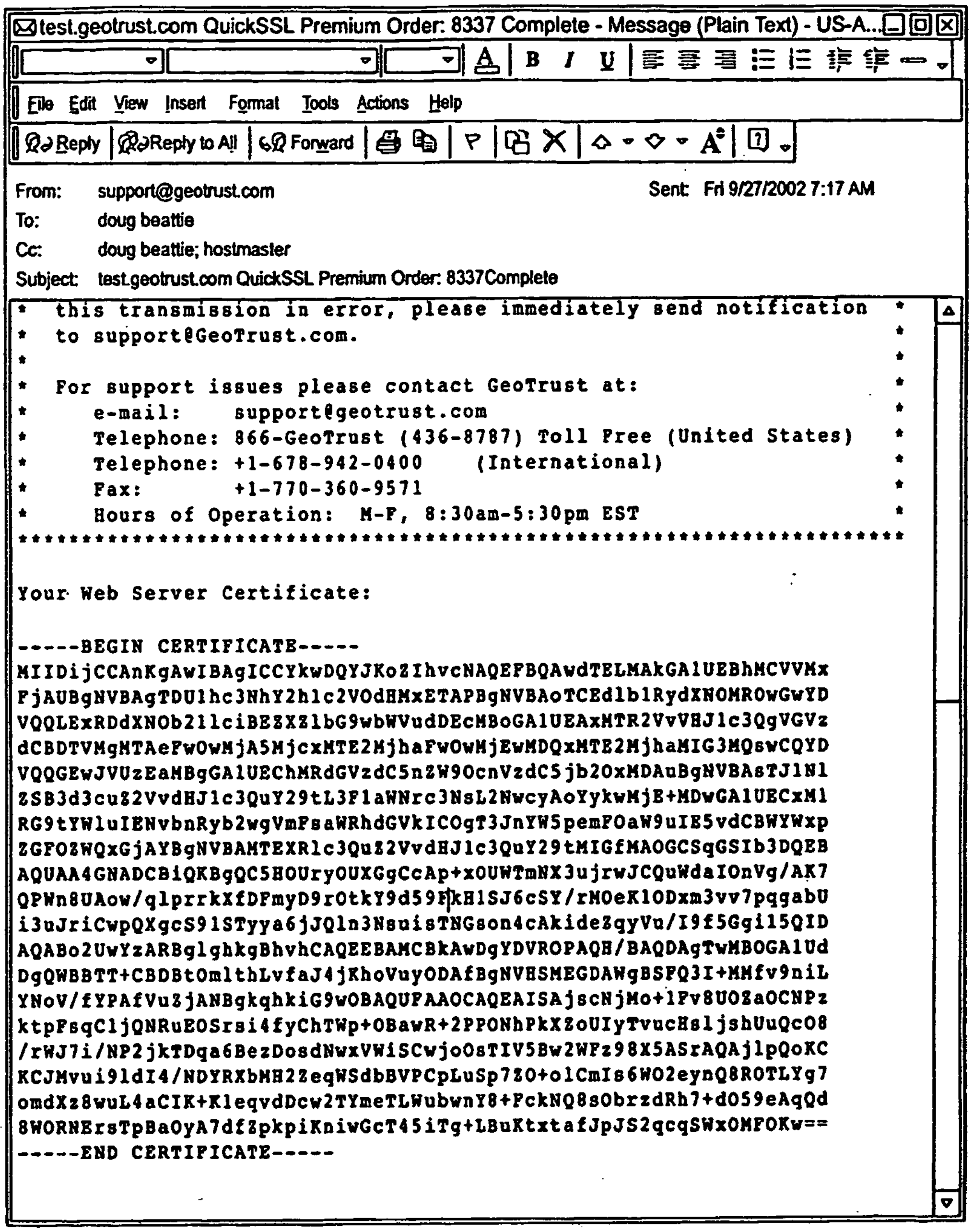
Thank you for choosing GeoTrust! If you have any questions about your
GeoTrust QuickSSL web server certificate please email us at
support@geotrust.com.  We hope that you will tell others about your
positive experience with us.


Sincerely,

Rapid Response Unit @ GeoTrust

**********************************************************************
*  This message contains information from GeoTrust, Inc., which      *
*  may be confidential and privileged.  If you are not an intended   *
*  recipient, please note that any disclosure, copying, distribution *
*  or use of this information is prohibited.  If you have received   *
*  this transmission in error, please immediately send notification  *
*  to support@GeoTrust.com.                                          *
*                                                                    *
*  For support issues please contact GeoTrust at:                    *
*     e-mail:     support@geotrust.com                               *
*     Telephone: 866-GeoTrust (436-8787) Toll Free (United States)   *
*     Telephone: +1-678-942-0400    (International)                  *
*     Fax:        +1-770-360-9571                                    *
*     Hours of Operation:  M-F, 8:30am-5:30pm EST                    *
```

FIG. 14a



test.geotrust.com QuickSSL Premium Order: 8337 Complete - Message (Plain Text) - US-A...
B I U
File Edit View Insert Format Tools Actions Help
Reply
Reply to All
Forward

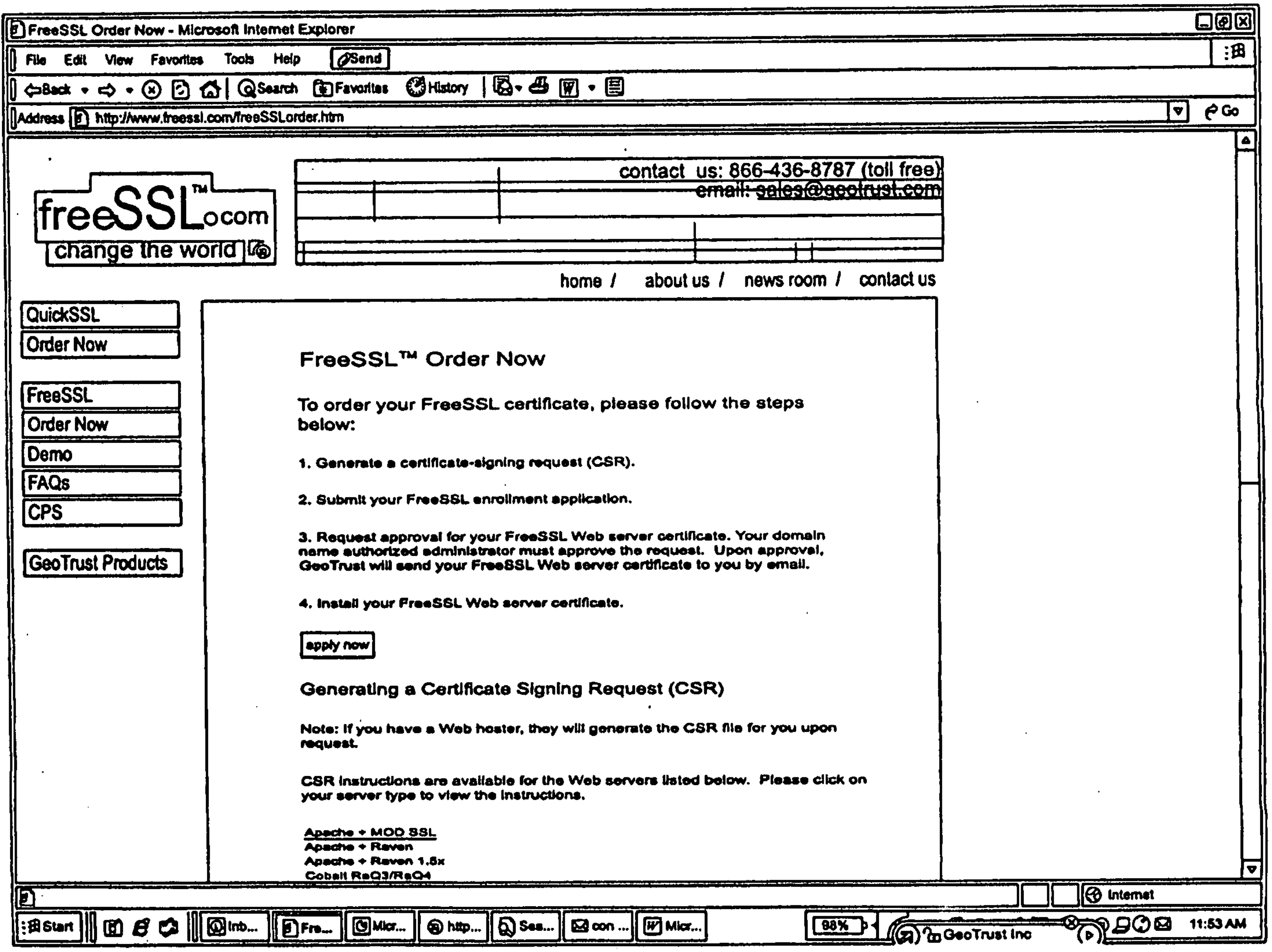
From: support@geotrust.com Sent: Fri 9/27/2002 7:17 AM
To: doug beattie
Cc: doug beattie; hostmaster
Subject: test.geotrust.com QuickSSL Premium Order: 8337Complete

```
*  this transmission in error, please immediately send notification  *
*  to support@GeoTrust.com.                                           *
*                                                                      *
*  For support issues please contact GeoTrust at:                     *
*     e-mail:     support@geotrust.com                                *
*     Telephone: 866-GeoTrust (436-8787) Toll Free (United States)    *
*     Telephone: +1-678-942-0400    (International)                   *
*     Fax:        +1-770-360-9571                                     *
*     Hours of Operation:  M-F, 8:30am-5:30pm EST                     *
**********************************************************************

Your Web Server Certificate:
```

-----BEGIN CERTIFICATE-----
MIIDijCCAnKgAwIBAgICCYkwDQYJKoZIhvcNAQEFBQAwdTELMAkGA1UEBhMCVVMx
FjAUBgNVBAgTDU1hc3NhY2h1c2V0dHMxETAPBgNVBAoTCEdlb1RydXN0MROwGwYD
VQQLExRDdXNOb21lciBEZXZlbG9wbWVudDEcMBoGA1UEAxMTR2VvVHJ1c3QgVGVz
dCBDTVMgMTAeFwOwMjA5MjcxMTE2MjhaFwOwMjEwMDQxMTE2MjhaMIG3MQswCQYD
VQQGEwJVUzEaMBgGA1UEChMRdGVzdC5nZW9OcnVzdC5jb20xMDAuBgNVBAsTJ1N1
ZSB3d3cuZ2VvdHJ1c3QuY29tL3FlaWNrc3NsL2NwcyAoYykwMjE+MDwGA1UECxM1
RG9tYWluIENvbnRyb2wgVmFsaWRhdGVkICOgT3JnYW5pemFOaW9uIE5vdCBWYWxp
ZGFOZWQxGjAYBgNVBAMTEXRlc3QuZ2VvdHJ1c3QuY29tMIGfMA0GCSqGSIb3DQEB
AQUAA4GNADCBiQKBgQC5HOUryOUXGgCcAp+xOUWTmNX3ujrwJCQuWdaIOnVg/AK7
QPWn8UAow/qlprrkXfDFmyD9rOtkY9d59FkH1SJ6cSY/rMOeK1ODxm3vv7pqgabU
i3uJriCwpQXgcS91STyya6jJQln3NsuisTNGson4cAkideZqyVu/I9f5Ggil5QID
AQABo2UwYzARBglghkgBhvhCAQEEBAMCBkAwDgYDVROPAQH/BAQDAgTwMBOGA1Ud
DgQWBBTT+CBDBtOmlthLvfaJ4jKhoVuyODAfBgNVHSMEGDAWgBSFQ3I+MMfv9niL
YNoV/fYPAfVuZjANBgkqhkiG9wOBAQUFAAOCAQEAISAjscNjMo+lPv8UOZaOCNPz
ktpFsqCljQNRuEOSrsi4fyChTWp+OBawR+2PPONhPkXZoUIyTvucHsljshUuQcO8
/rWJ7i/NP2jkTDqa6BezDosdNwxVWiSCwjoOsTIV5Bw2WFz98X5ASrAQAjlpQoKC
KCJMvui9ldI4/NDYRXbMH2ZeqWSdbBVPCpLuSp7ZO+olCmIs6WO2eynQ8ROTLYg7
omdXz8wuL4aCIK+KleqvdDcw2TYmeTLWubwnY8+FckNQ8sObrzdRh7+dO59eAqQd
8WORNErsTpBaOyA7dfZpkpiKniwGcT45iTg+LBuKtxtafJpJS2qcqSWxOMFOKw==
-----END CERTIFICATE-----

FIG. 14b


FreeSSL Order Now - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address http://www.freessl.com/freeSSLorder.htm
Go
freeSSL™.com
change the world
home / about us / news room / contact us
QuickSSL
Order Now
FreeSSL
Order Now
Demo
FAQs
CPS
GeoTrust Products
Internet
Start
Inb...
Fre...
Micr...
http...
Sea...
con ...
Micr...
98%
GeoTrust Inc
11:53 AM

contact us: 866-436-8787 (toll free)
email: sales@geotrust.com

FreeSSL™ Order Now

To order your FreeSSL certificate, please follow the steps below:

1. Generate a certificate-signing request (CSR).

2. Submit your FreeSSL enrollment application.

3. Request approval for your FreeSSL Web server certificate. Your domain name authorized administrator must approve the request. Upon approval, GeoTrust will send your FreeSSL Web server certificate to you by email.

4. Install your FreeSSL Web server certificate.

apply now

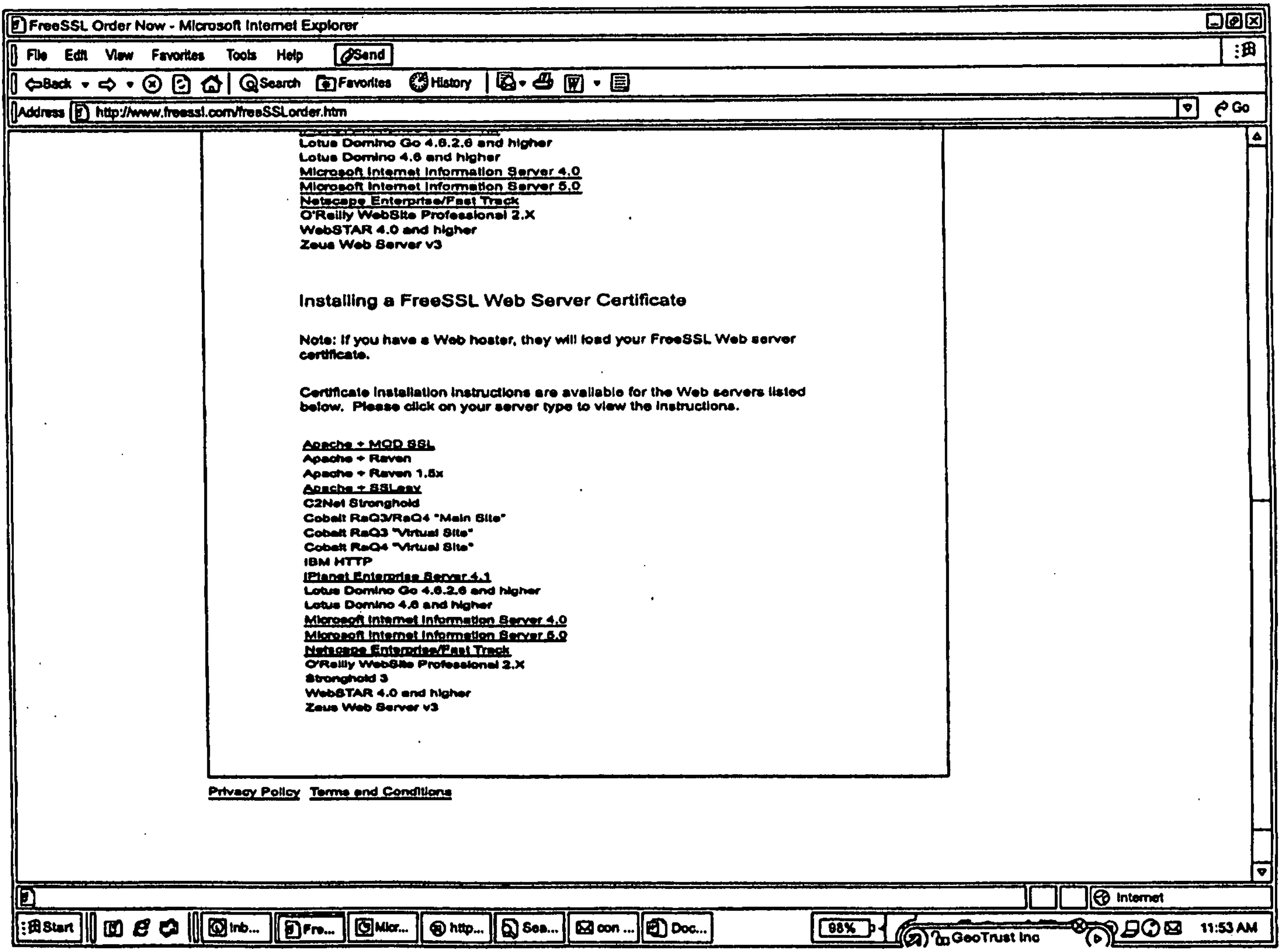
Generating a Certificate Signing Request (CSR)

Note: If you have a Web hoster, they will generate the CSR file for you upon request.

CSR instructions are available for the Web servers listed below. Please click on your server type to view the instructions.

Apache + MOD SSL
Apache + Raven
Apache + Raven 1.5x
Cobalt RaQ3/RaQ4

FIG. 15a


FreeSSL Order Now - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address http://www.freessl.com/freeSSLorder.htm
Go

Lotus Domino Go 4.6.2.6 and higher
Lotus Domino 4.6 and higher
Microsoft Internet Information Server 4.0
Microsoft Internet Information Server 5.0
Netscape Enterprise/Fast Track
O'Reilly WebSite Professional 2.X
WebSTAR 4.0 and higher
Zeus Web Server v3

Installing a FreeSSL Web Server Certificate

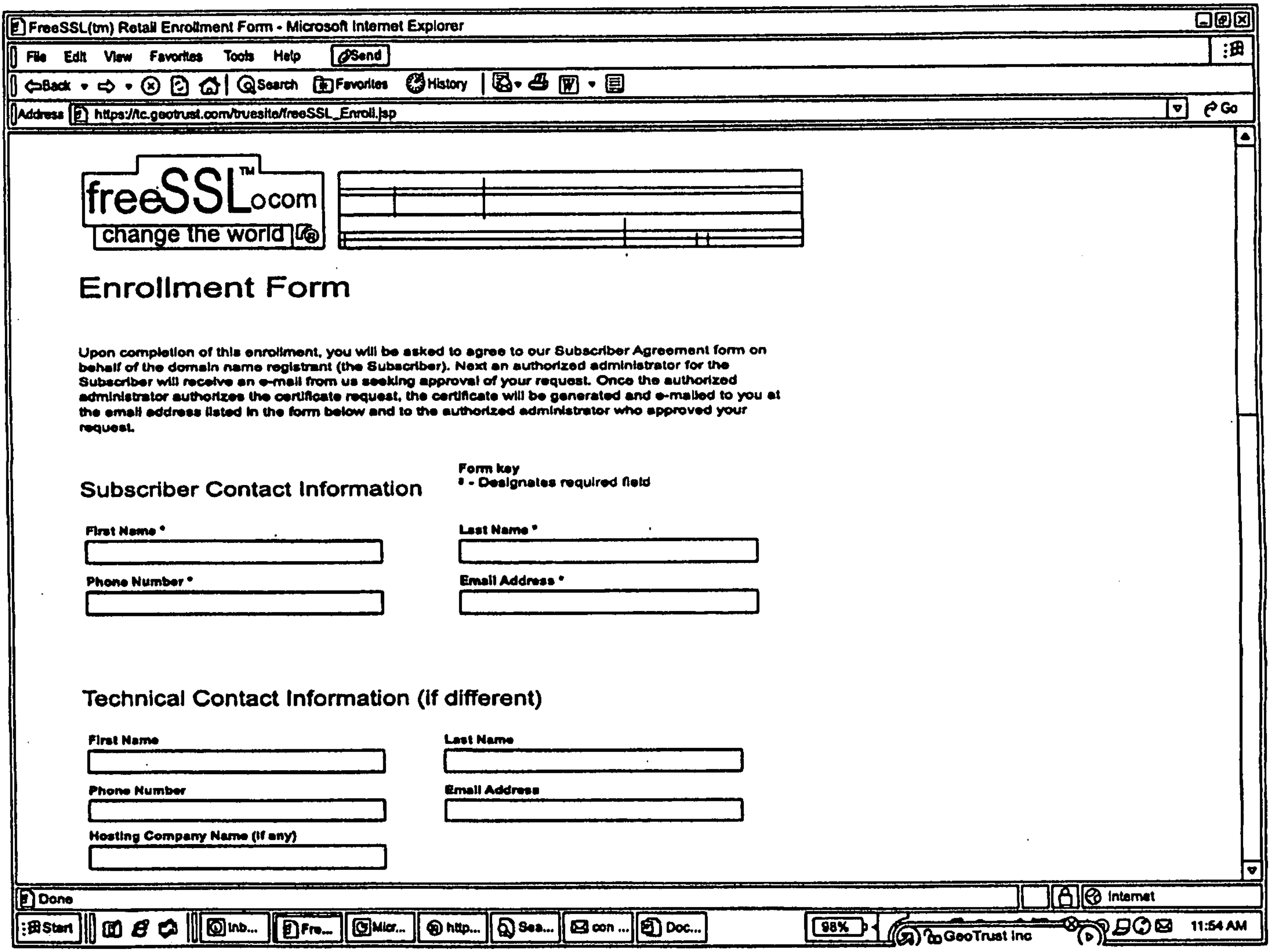
Note: If you have a Web hoster, they will load your FreeSSL Web server certificate.

Certificate installation instructions are available for the Web servers listed below. Please click on your server type to view the instructions.

Apache + MOD SSL
Apache + Raven
Apache + Raven 1.5x
Apache + SSLeay
C2Net Stronghold
Cobalt RaQ3/RaQ4 "Main Site"
Cobalt RaQ3 "Virtual Site"
Cobalt RaQ4 "Virtual Site"
IBM HTTP
IPlanet Enterprise Server 4.1
Lotus Domino Go 4.6.2.6 and higher
Lotus Domino 4.6 and higher
Microsoft Internet Information Server 4.0
Microsoft Internet Information Server 5.0
Netscape Enterprise/Fast Track
O'Reilly WebSite Professional 2.X
Stronghold 3
WebSTAR 4.0 and higher
Zeus Web Server v3

Privacy Policy Terms and Conditions

FIG. 15b


FreeSSL(tm) Retail Enrollment Form - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSL_Enroll.jsp
Go
freeSSL™.com
change the world
Done
Internet
Start
Inb...
Fre...
Micr...
http...
Sea...
con ...
Doc...
98%
GeoTrust Inc
11:54 AM

Enrollment Form

Upon completion of this enrollment, you will be asked to agree to our Subscriber Agreement form on behalf of the domain name registrant (the Subscriber). Next an authorized administrator for the Subscriber will receive an e-mail from us seeking approval of your request. Once the authorized administrator authorizes the certificate request, the certificate will be generated and e-mailed to you at the email address listed in the form below and to the authorized administrator who approved your request.

Form key
* - Designates required field

Subscriber Contact Information

First Name *

Last Name *

Phone Number *

Email Address *

Technical Contact Information (if different)

First Name

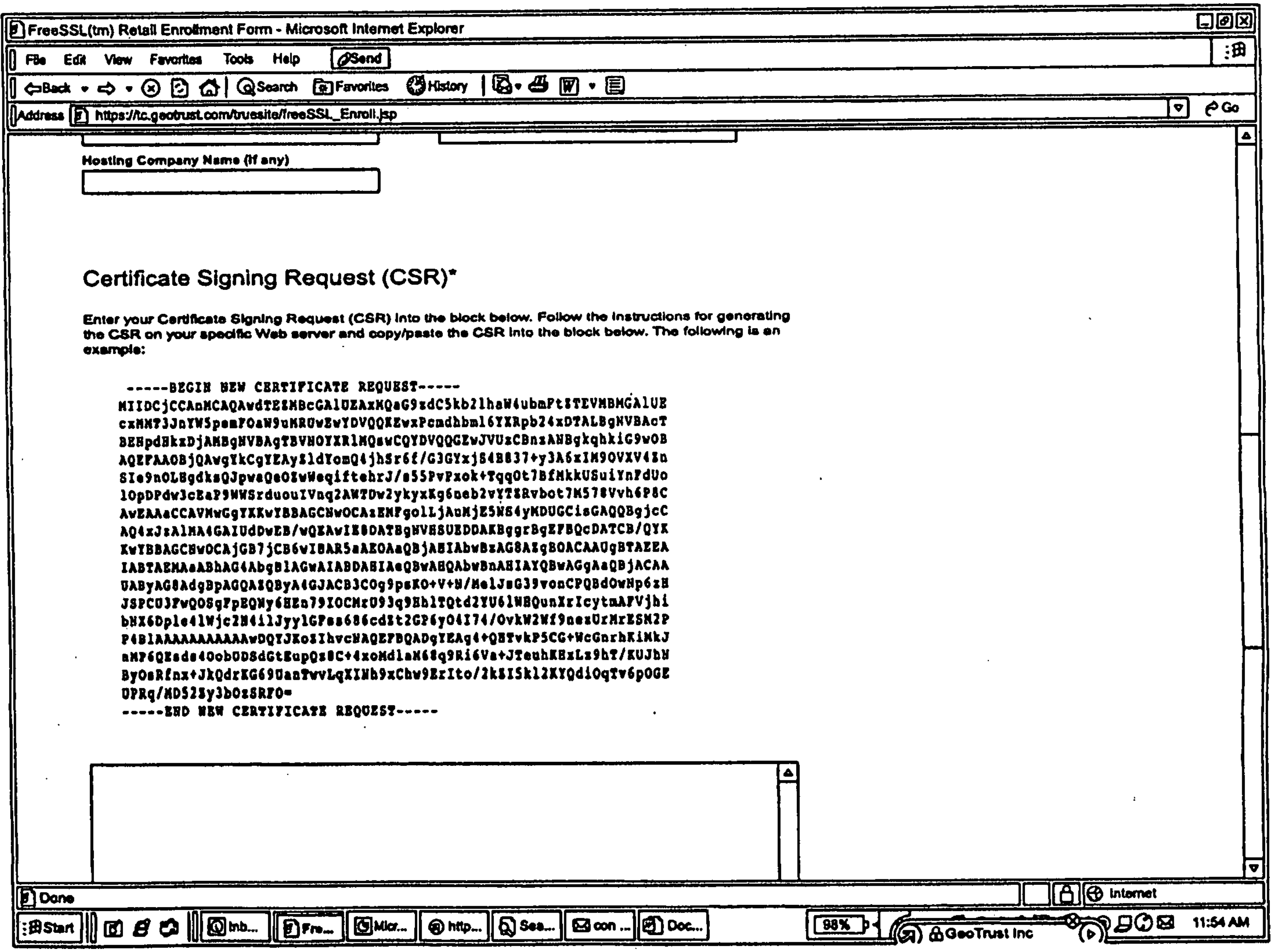
Last Name

Phone Number

Email Address

Hosting Company Name (if any)

FIG. 16a



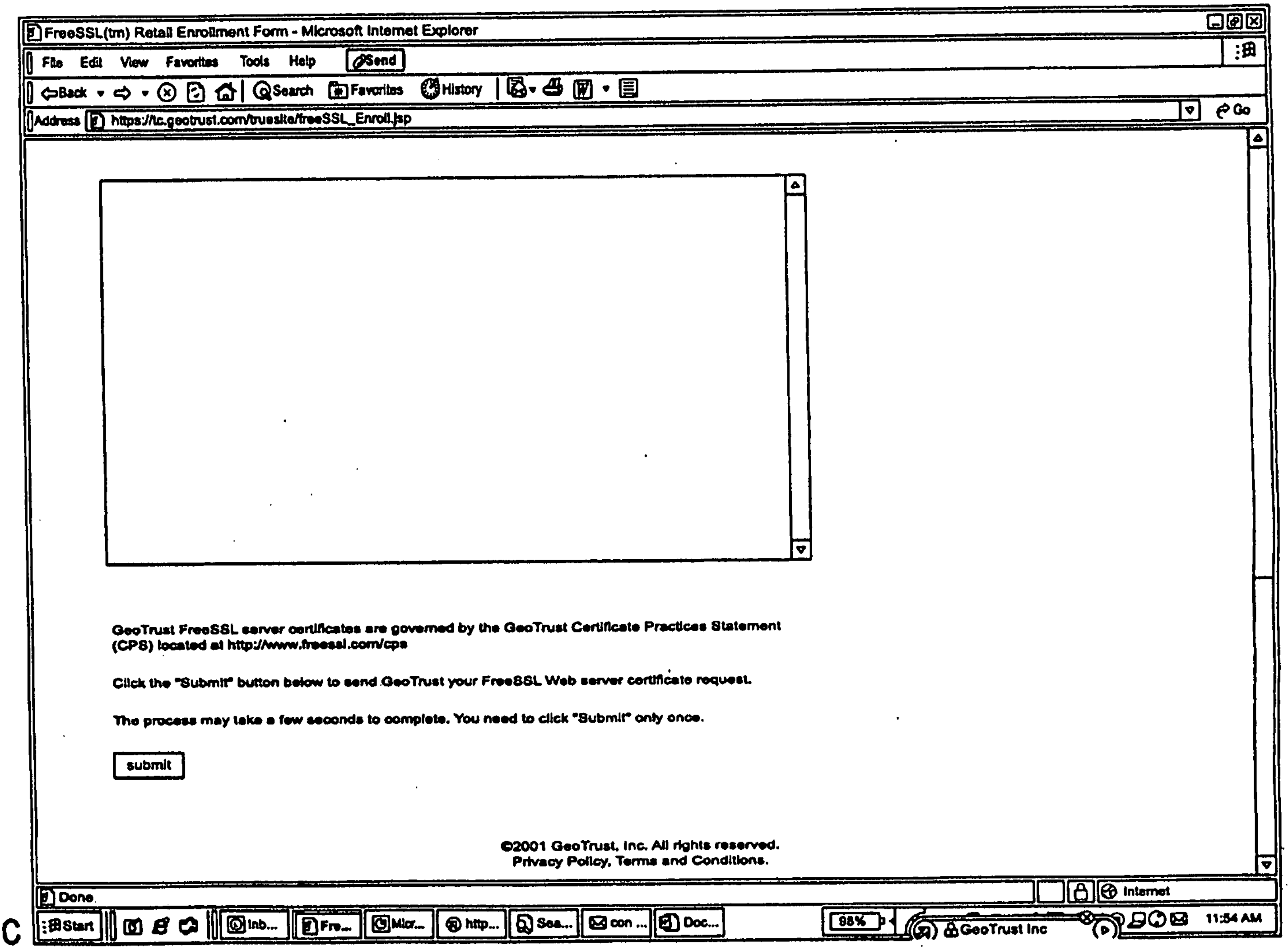
Hosting Company Name (If any)

Certificate Signing Request (CSR)*

Enter your Certificate Signing Request (CSR) into the block below. Follow the instructions for generating the CSR on your specific Web server and copy/paste the CSR into the block below. The following is an example:

```
 -----BEGIN NEW CERTIFICATE REQUEST-----
MIIDCjCCAnMCAQAwdTELMBcGA1UEAxMQaG9zdC5kb21haW4ubmPtSTEVMBMGA1UE
cxMMT3JnYW5pemF0aW9uMRUwEwYDVQQKEwxPcmdhbml6YXRpb24xDTALBgNVBAcT
BEHpdHkxDjAMBgNVBAgTBVNOYXRlMQswCQYDVQQGEwJVUzCBnzANBgkqhkiG9wOB
AQEFAAOBjQAwgYkCgYEAy8ldYomQ4jhSr6f/G3GYxj84B837+y3A6xIM9OVXV4En
SIe9nOLBgdksQJpvaQeOEwWeqiftebrJ/s55PvPxok+TqqOt7BfMkkUSuiYnFdUo
lOpDPdw3cEaP9WWSrduouIVnq2AWTDw2ykyxKg6neb2vYT8Rvbot7M578Vvh6P8C
AwEAAaCCAVMwGgYKKwYBBAGCNwOCAzEMFgolLjAuMjE5NS4yMDUGCisGAQQBgjcC
AQ4xJzAlMA4GA1UdDwEB/wQEAwIE8DATBgNVHSUEDDAKBggrBgEFBQcDATCB/QYK
KwYBBAGCNwOCAjGB7jCB6vIBAR5aAEOAaQBjAHIAbwBzAG8AZgBOACAAUgBTAEEA
IABTAEMAaABhAG4AbgBlAGwAIABDAHIAeQBwAHQAbwBnAHIAYQBwAGgAaQBjACAA
UAByAG8AdgBpAGQAZQByA4GJACB3COg9psKO+V+N/MelJsG39vonCPQBdOwNp6zH
JSPCU3FvQOSgFpEQNy6HEn79IOCMrU93q9HblTQtd2YU61WHQunXrIcytmAFVjhi
bNX6Dple4lWjc2N4ilJyylGPes686cdEt2GP6yO4I74/OvkW2Wf9nezUrMrESN2P
P4BlAAAAAAAAAAAwDQYJKoZIhvcNAQEFBQADgYEAg4+QHTvkP5CG+WcGnrhKiMkJ
aMP6QEsde4OobUD8dGtEupQz8C+4xoMdlaN68q9Ri6Va+JTeuhKHxLz9hT/KUJbN
ByOsRfnx+JkQdrKG69UanTvvLqXINb9xChw9ErIto/2k8ISkl2KYQdiOqTv6pOGE
UPRq/MD52Ey3bOz8RFO=
-----END NEW CERTIFICATE REQUEST-----
```

FIG. 16b



FreeSSL(tm) Retail Enrollment Form - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/trustsite/freeSSL_Enroll.jsp
Go
Done
Internet
Start
Inb...
Fre...
Micr...
http...
Sea...
con ...
Doc...
98%
GeoTrust Inc
11:54 AM

GeoTrust FreeSSL server certificates are governed by the GeoTrust Certificate Practices Statement (CPS) located at http://www.freessl.com/cps

Click the "Submit" button below to send GeoTrust your FreeSSL Web server certificate request.

The process may take a few seconds to complete. You need to click "Submit" only once.

submit

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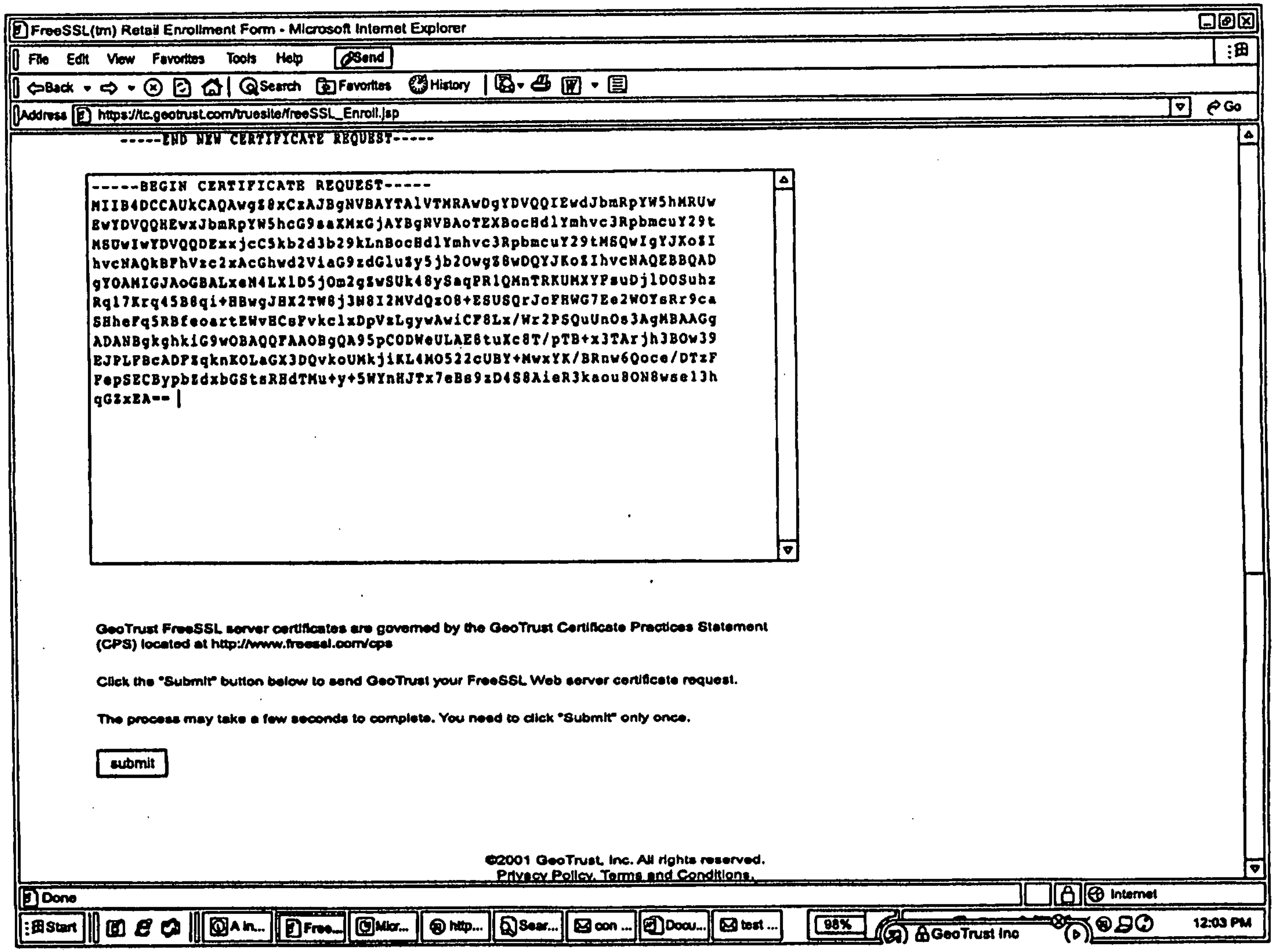
Privacy Policy, Terms and Conditions.

FIG. 16c



FreeSSL(tm) Retail Enrollment Form - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSL_Enroll.jsp
Go
Done
Internet
Start
A in...
Free...
Micr...
http...
Sear...
con ...
Docu...
test ...
98%
GeoTrust Inc
12:03 PM

```
-----END NEW CERTIFICATE REQUEST-----
```

```
-----BEGIN CERTIFICATE REQUEST-----
MIIB4DCCAUkCAQAwgZ8xCzAJBgNVBAYTAlVTMRAwDgYDVQQIEwdJbmRpYW5hMRUw
EwYDVQQHEwxJbmRpYW5hcG9saXMxGjAYBgNVBAoTEXBocHdlYmhvc3RpbmcuY29t
MSUwIwYDVQQDExxjcC5kb2d3b29kLnBocHdlYmhvc3RpbmcuY29tMSQwIgYJKoZI
hvcNAQkBFhVzc2xAcGhwd2ViaG9zdGluZy5jb20wgZ8wDQYJKoZIhvcNAQEBBQAD
gY0AMIGJAoGBALxeN4LX1D5jOm2gZwSUk48ySaqPR1QMnTRKUMXYPsuDjlDOSuhz
Rql7Krq45B8qi+HBwgJHX2TW8j3N8I2MVdQzO8+ESUSQrJoFHWG7Ee2WOYsRr9ca
SHheFq5RBfeoartEWvHCsFvkclxDpVzLgywAwiCF8Lx/Wr2PSQuUnOs3AgMBAAGg
ADANBgkqhkiG9w0BAQQFAAOBgQA95pCODWeULAE8tuXc8T/pTB+x3TArjh3BOw39
EJPLFBcADFZqknKOLaGX3DQvkoUMkjiKL4MO522cUBY+MwxYK/BRnw6Qoce/DTzF
FepSECBypbZdxbGStsRHdTMu+y+5WYnHJTx7eBs9zD4S8AieR3kaou8ON8wsel3h
qGZxEA==
```

GeoTrust FreeSSL server certificates are governed by the GeoTrust Certificate Practices Statement (CPS) located at http://www.freessl.com/cps

Click the "Submit" button below to send GeoTrust your FreeSSL Web server certificate request.

The process may take a few seconds to complete. You need to click "Submit" only once.

submit

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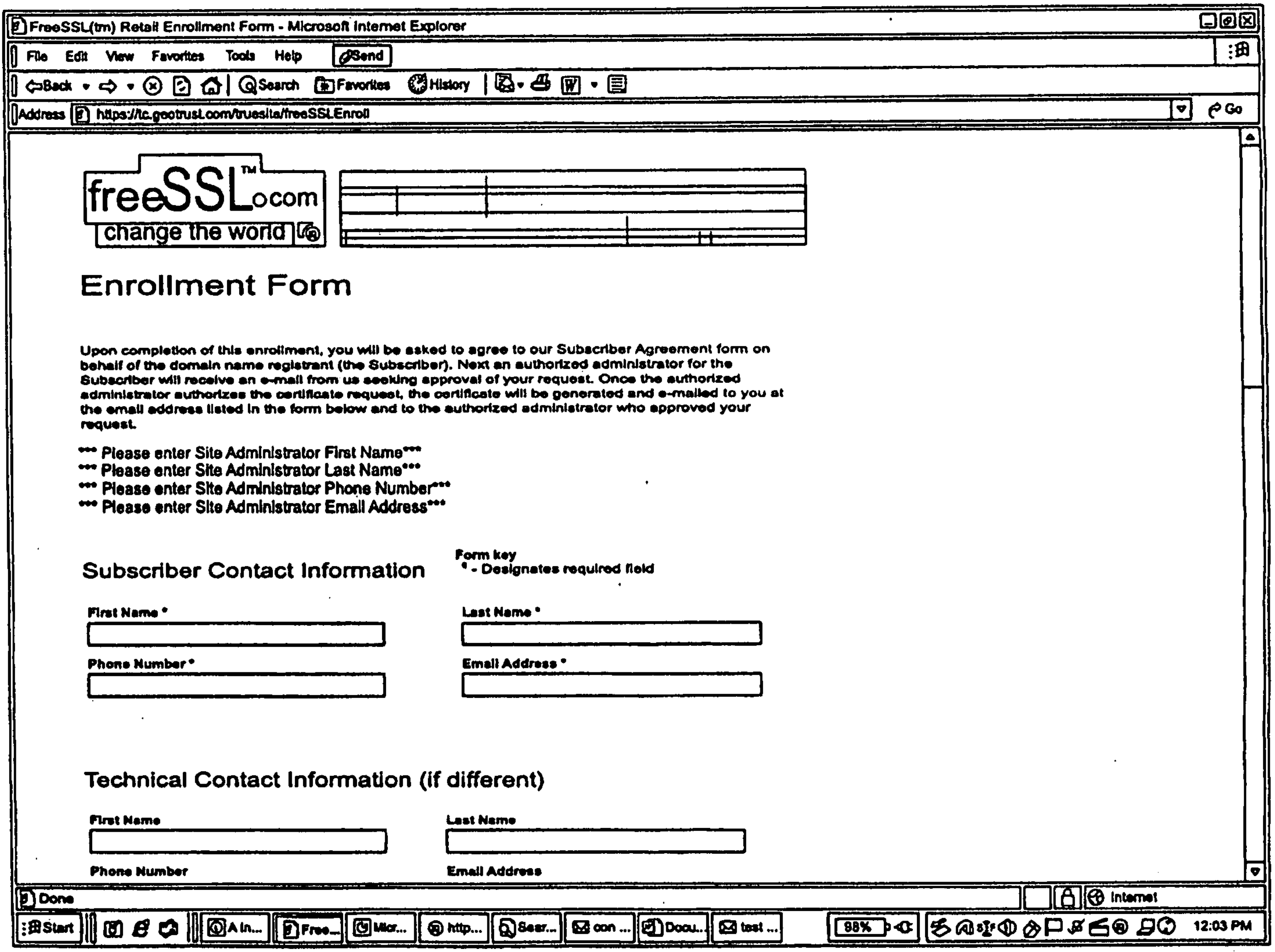
Privacy Policy, Terms and Conditions.

FIG. 17


FreeSSL(tm) Retail Enrollment Form - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go
freeSSL.com™
change the world
Done
Internet
Start
A In...
Free...
Micr...
http...
Sear...
con ...
Docu...
test ...
98%
12:03 PM

Enrollment Form

Upon completion of this enrollment, you will be asked to agree to our Subscriber Agreement form on behalf of the domain name registrant (the Subscriber). Next an authorized administrator for the Subscriber will receive an e-mail from us seeking approval of your request. Once the authorized administrator authorizes the certificate request, the certificate will be generated and e-mailed to you at the email address listed in the form below and to the authorized administrator who approved your request.

*** Please enter Site Administrator First Name***
*** Please enter Site Administrator Last Name***
*** Please enter Site Administrator Phone Number***
*** Please enter Site Administrator Email Address***

Subscriber Contact Information

Form key
* - Designates required field

First Name *

Last Name *

Phone Number *

Email Address *

Technical Contact Information (if different)

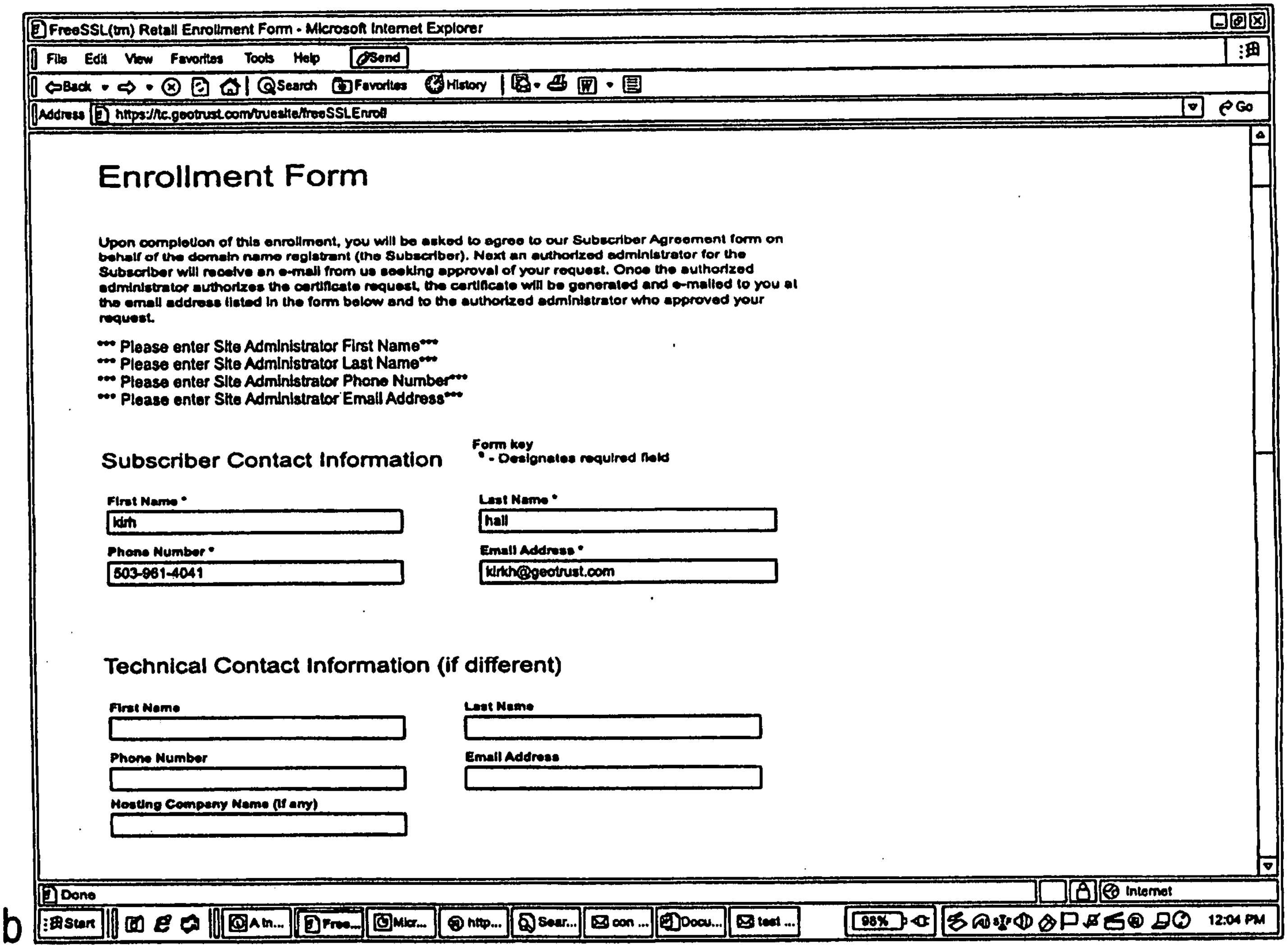
First Name

Last Name

Phone Number

Email Address

FIG. 18a


FreeSSL(tm) Retail Enrollment Form - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go
Done
Internet
Start
A In...
Free...
Micr...
http...
Sear...
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Docu...
test ...
98%
12:04 PM

Enrollment Form

Upon completion of this enrollment, you will be asked to agree to our Subscriber Agreement form on behalf of the domain name registrant (the Subscriber). Next an authorized administrator for the Subscriber will receive an e-mail from us seeking approval of your request. Once the authorized administrator authorizes the certificate request, the certificate will be generated and e-mailed to you at the email address listed in the form below and to the authorized administrator who approved your request.

*** Please enter Site Administrator First Name***
*** Please enter Site Administrator Last Name***
*** Please enter Site Administrator Phone Number***
*** Please enter Site Administrator Email Address***

Subscriber Contact Information

Form key
* - Designates required field

First Name * kirh

Last Name * hall

Phone Number * 503-961-4041

Email Address * kirkh@geotrust.com

Technical Contact Information (if different)

First Name

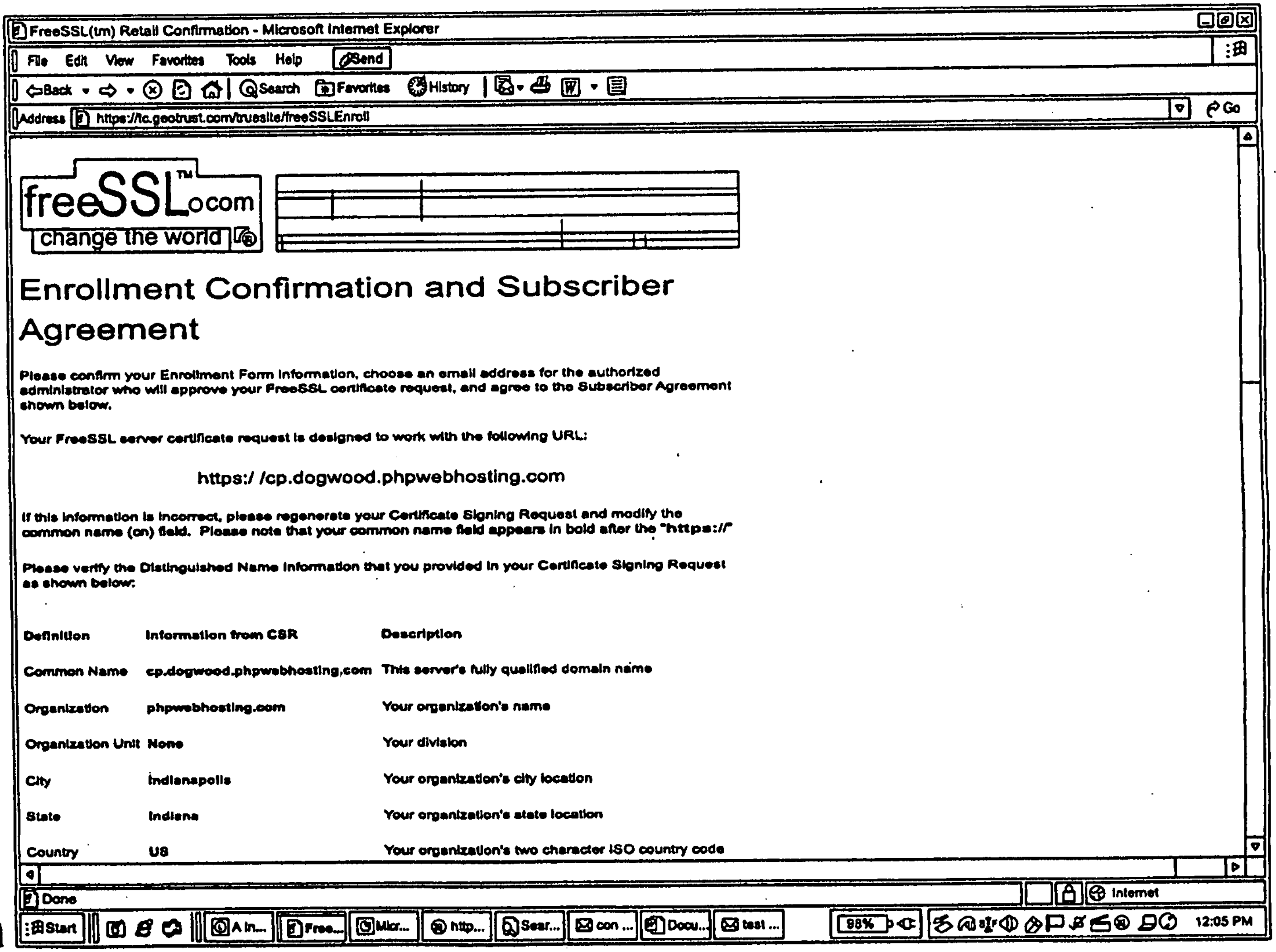
Last Name

Phone Number

Email Address

Hosting Company Name (if any)

FIG. 18b


FreeSSL(tm) Retail Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go
freeSSL™.com
change the world
Done
Internet
Start
A In...
Free...
Micr...
http...
Sear...
con ...
Docu...
test ...
98%
12:05 PM

Enrollment Confirmation and Subscriber Agreement

Please confirm your Enrollment Form information, choose an email address for the authorized administrator who will approve your FreeSSL certificate request, and agree to the Subscriber Agreement shown below.

Your FreeSSL server certificate request is designed to work with the following URL:

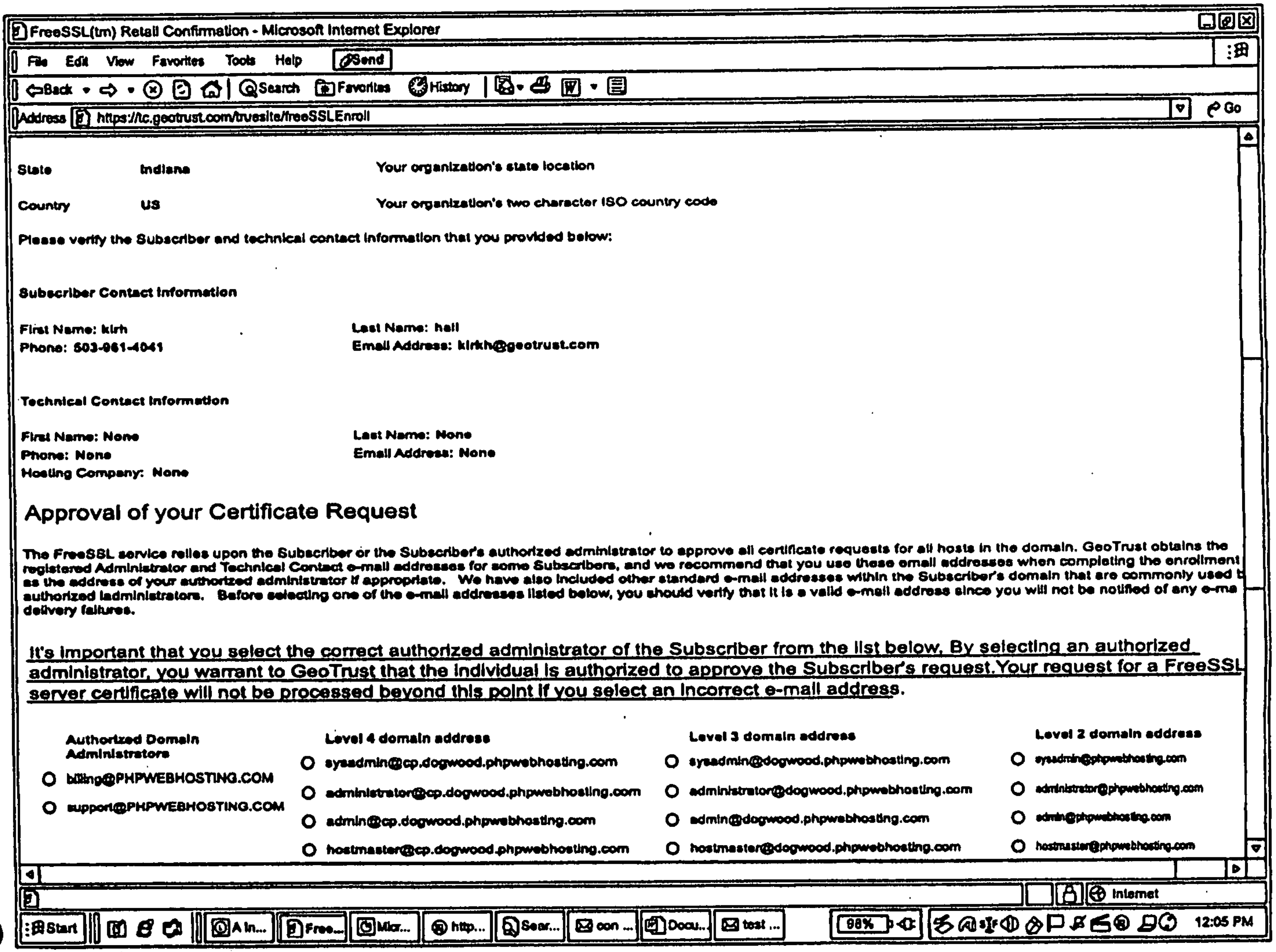
https:/ /cp.dogwood.phpwebhosting.com

If this information is incorrect, please regenerate your Certificate Signing Request and modify the common name (cn) field. Please note that your common name field appears in bold after the "https://"

Please verify the Distinguished Name Information that you provided in your Certificate Signing Request as shown below:

Definition	Information from CSR	Description
Common Name	cp.dogwood.phpwebhosting.com	This server's fully qualified domain name
Organization	phpwebhosting.com	Your organization's name
Organization Unit	None	Your division
City	Indianapolis	Your organization's city location
State	Indiana	Your organization's state location
Country	US	Your organization's two character ISO country code

FIG. 19a


FreeSSL(tm) Retail Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go
Start A In... Free... Micr... http... Sear... con ... Docu... test ...
98%
Internet
12:05 PM

State	Indiana	Your organization's state location
Country	US	Your organization's two character ISO country code

Please verify the Subscriber and technical contact information that you provided below:

Subscriber Contact Information

First Name: kirh
Phone: 503-961-4041
Last Name: hall
Email Address: kirkh@geotrust.com

Technical Contact Information

First Name: None
Phone: None
Hosting Company: None
Last Name: None
Email Address: None

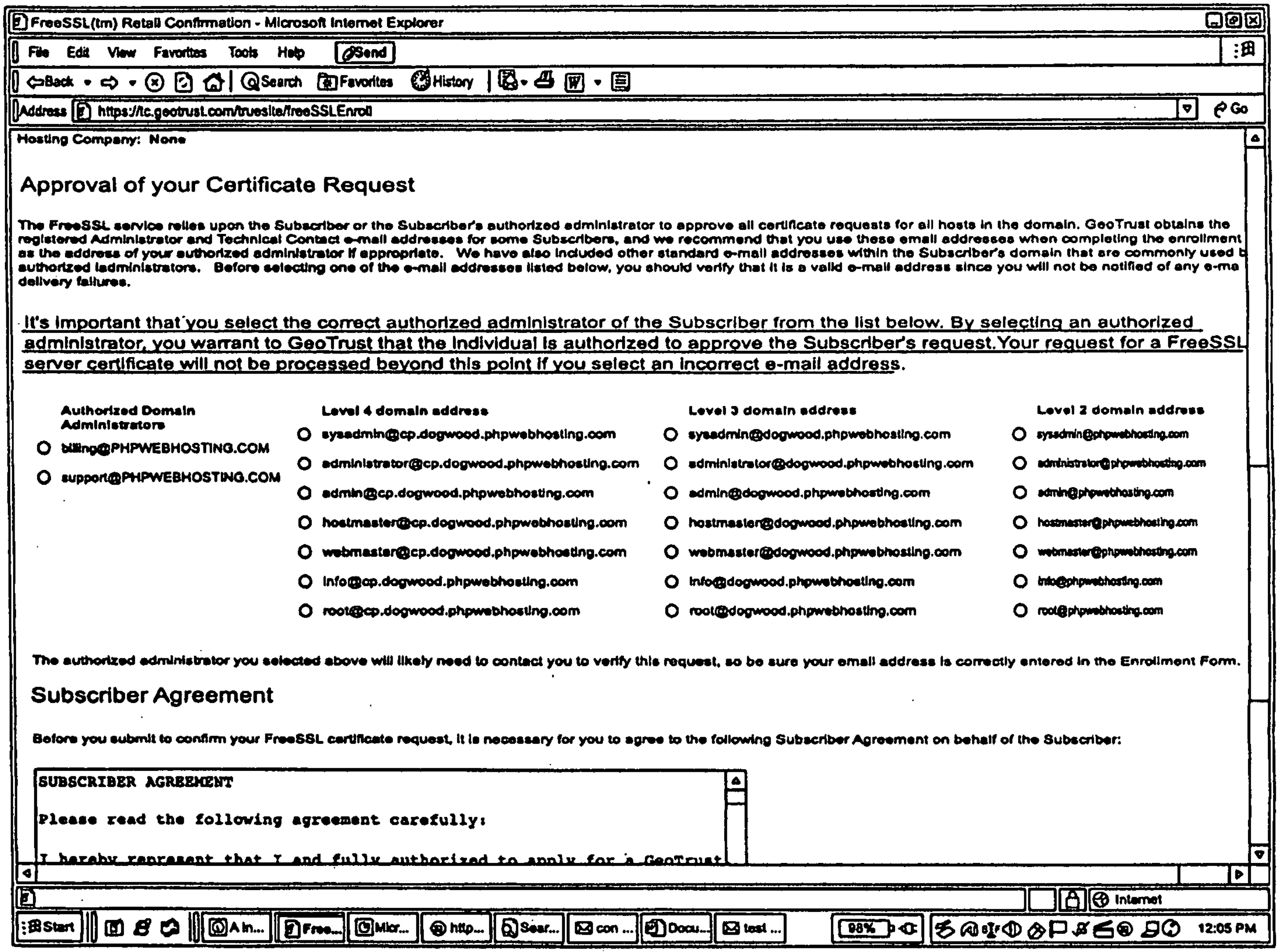
Approval of your Certificate Request

The FreeSSL service relies upon the Subscriber or the Subscriber's authorized administrator to approve all certificate requests for all hosts in the domain. GeoTrust obtains the registered Administrator and Technical Contact e-mail addresses for some Subscribers, and we recommend that you use these email addresses when completing the enrollment as the address of your authorized administrator if appropriate. We have also included other standard e-mail addresses within the Subscriber's domain that are commonly used b authorized ladministrators. Before selecting one of the e-mail addresses listed below, you should verify that it is a valid e-mail address since you will not be notified of any e-ma delivery failures.

It's important that you select the correct authorized administrator of the Subscriber from the list below. By selecting an authorized administrator, you warrant to GeoTrust that the individual is authorized to approve the Subscriber's request. Your request for a FreeSSL server certificate will not be processed beyond this point if you select an incorrect e-mail address.

Authorized Domain Administrators	Level 4 domain address	Level 3 domain address	Level 2 domain address
○ billing@PHPWEBHOSTING.COM	○ sysadmin@cp.dogwood.phpwebhosting.com	○ sysadmin@dogwood.phpwebhosting.com	○ sysadmin@phpwebhosting.com
○ support@PHPWEBHOSTING.COM	○ administrator@cp.dogwood.phpwebhosting.com	○ administrator@dogwood.phpwebhosting.com	○ administrator@phpwebhosting.com
	○ admin@cp.dogwood.phpwebhosting.com	○ admin@dogwood.phpwebhosting.com	○ admin@phpwebhosting.com
	○ hostmaster@cp.dogwood.phpwebhosting.com	○ hostmaster@dogwood.phpwebhosting.com	○ hostmaster@phpwebhosting.com

FIG. 19b



FreeSSL(tm) Retail Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go

Hosting Company: None

Approval of your Certificate Request

The FreeSSL service relies upon the Subscriber or the Subscriber's authorized administrator to approve all certificate requests for all hosts in the domain. GeoTrust obtains the registered Administrator and Technical Contact e-mail addresses for some Subscribers, and we recommend that you use these email addresses when completing the enrollment as the address of your authorized administrator if appropriate. We have also included other standard e-mail addresses within the Subscriber's domain that are commonly used b authorized ladministrators. Before selecting one of the e-mail addresses listed below, you should verify that it is a valid e-mail address since you will not be notified of any e-ma delivery failures.

It's important that you select the correct authorized administrator of the Subscriber from the list below. By selecting an authorized administrator, you warrant to GeoTrust that the individual is authorized to approve the Subscriber's request.Your request for a FreeSSL server certificate will not be processed beyond this point if you select an incorrect e-mail address.

Authorized Domain Administrators	Level 4 domain address	Level 3 domain address	Level 2 domain address
○ billing@PHPWEBHOSTING.COM	○ sysadmin@cp.dogwood.phpwebhosting.com	○ sysadmin@dogwood.phpwebhosting.com	○ sysadmin@phpwebhosting.com
○ support@PHPWEBHOSTING.COM	○ administrator@cp.dogwood.phpwebhosting.com	○ administrator@dogwood.phpwebhosting.com	○ administrator@phpwebhosting.com
	○ admin@cp.dogwood.phpwebhosting.com	○ admin@dogwood.phpwebhosting.com	○ admin@phpwebhosting.com
	○ hostmaster@cp.dogwood.phpwebhosting.com	○ hostmaster@dogwood.phpwebhosting.com	○ hostmaster@phpwebhosting.com
	○ webmaster@cp.dogwood.phpwebhosting.com	○ webmaster@dogwood.phpwebhosting.com	○ webmaster@phpwebhosting.com
	○ info@cp.dogwood.phpwebhosting.com	○ info@dogwood.phpwebhosting.com	○ info@phpwebhosting.com
	○ root@cp.dogwood.phpwebhosting.com	○ root@dogwood.phpwebhosting.com	○ root@phpwebhosting.com

The authorized administrator you selected above will likely need to contact you to verify this request, so be sure your email address is correctly entered in the Enrollment Form.

Subscriber Agreement

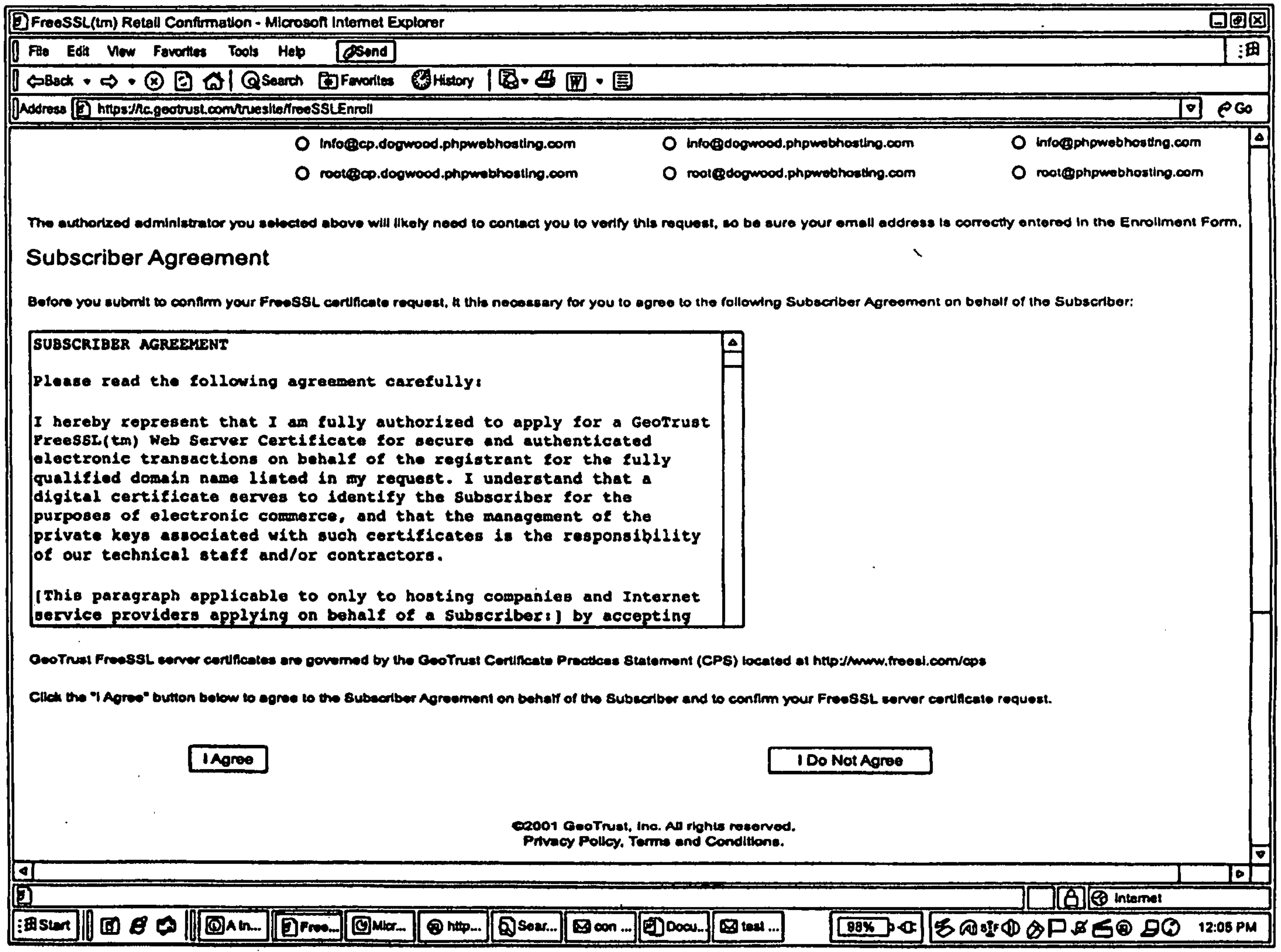
Before you submit to confirm your FreeSSL certificate request, it is necessary for you to agree to the following Subscriber Agreement on behalf of the Subscriber:

```
SUBSCRIBER AGREEMENT

Please read the following agreement carefully:

I hereby represent that I and fully authorized to apply for a GeoTrust
```

FIG. 19c


FreeSSL(tm) Retail Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help Send
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLEnroll
Go
Internet
Start A In... Free... Micr... http... Sear... con ... Docu... test ...
98%
12:05 PM

○ info@cp.dogwood.phpwebhosting.com ○ info@dogwood.phpwebhosting.com ○ info@phpwebhosting.com

○ root@cp.dogwood.phpwebhosting.com ○ root@dogwood.phpwebhosting.com ○ root@phpwebhosting.com

The authorized administrator you selected above will likely need to contact you to verify this request, so be sure your email address is correctly entered in the Enrollment Form.

Subscriber Agreement

Before you submit to confirm your FreeSSL certificate request, it this necessary for you to agree to the following Subscriber Agreement on behalf of the Subscriber:

SUBSCRIBER AGREEMENT

Please read the following agreement carefully:

I hereby represent that I am fully authorized to apply for a GeoTrust FreeSSL(tm) Web Server Certificate for secure and authenticated electronic transactions on behalf of the registrant for the fully qualified domain name listed in my request. I understand that a digital certificate serves to identify the Subscriber for the purposes of electronic commerce, and that the management of the private keys associated with such certificates is the responsibility of our technical staff and/or contractors.

[This paragraph applicable to only to hosting companies and Internet service providers applying on behalf of a Subscriber:] by accepting

GeoTrust FreeSSL server certificates are governed by the GeoTrust Certificate Practices Statement (CPS) located at http://www.freesl.com/cps

Click the "I Agree" button below to agree to the Subscriber Agreement on behalf of the Subscriber and to confirm your FreeSSL server certificate request.

I Agree

I Do Not Agree

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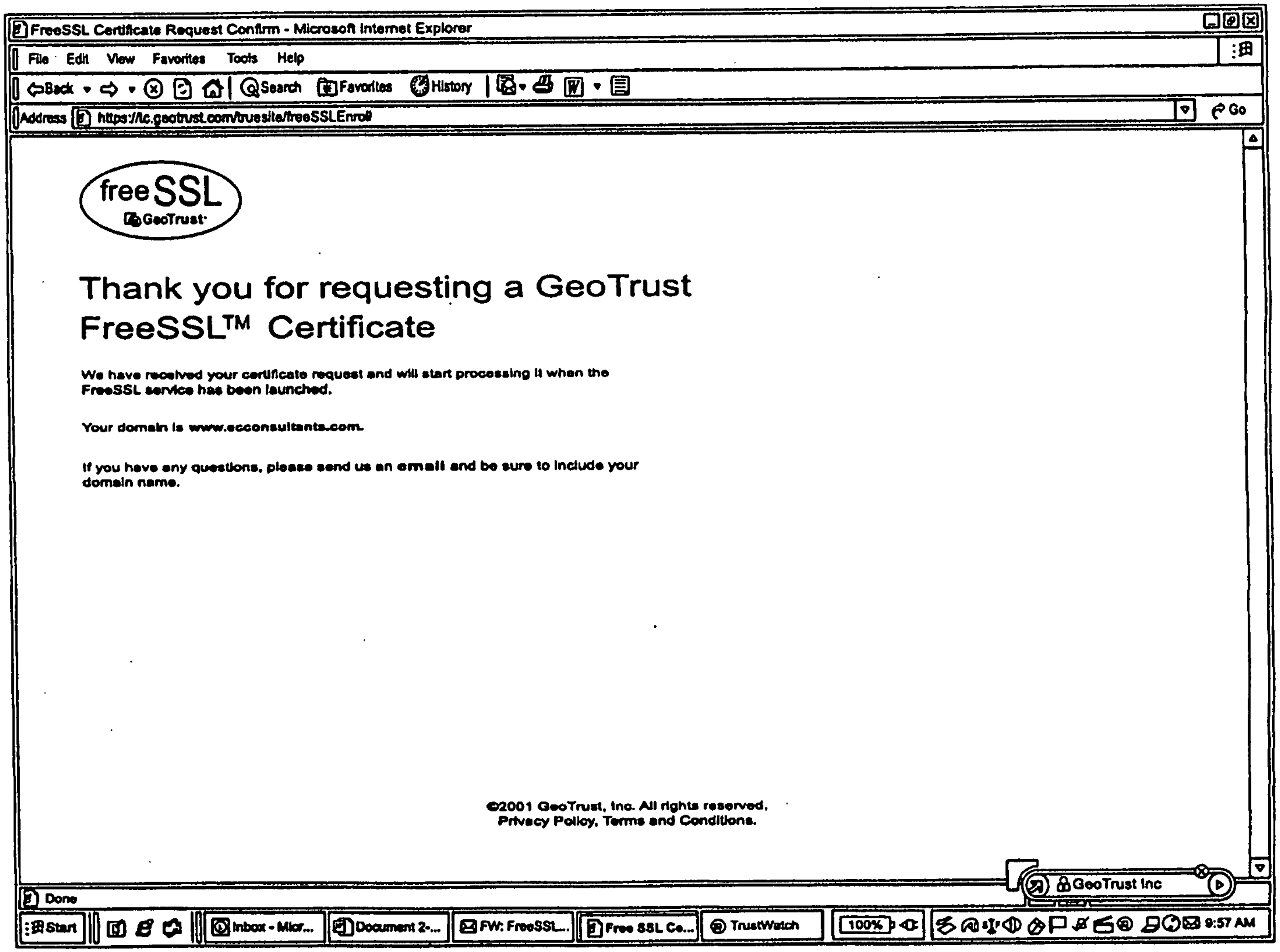
Privacy Policy, Terms and Conditions.

FIG. 19d



Thank you for requesting a GeoTrust FreeSSL™ Certificate

We have received your certificate request and will start processing it when the FreeSSL service has been launched.

Your domain is www.acconsultants.com.

If you have any questions, please send us an email and be sure to include your domain name.

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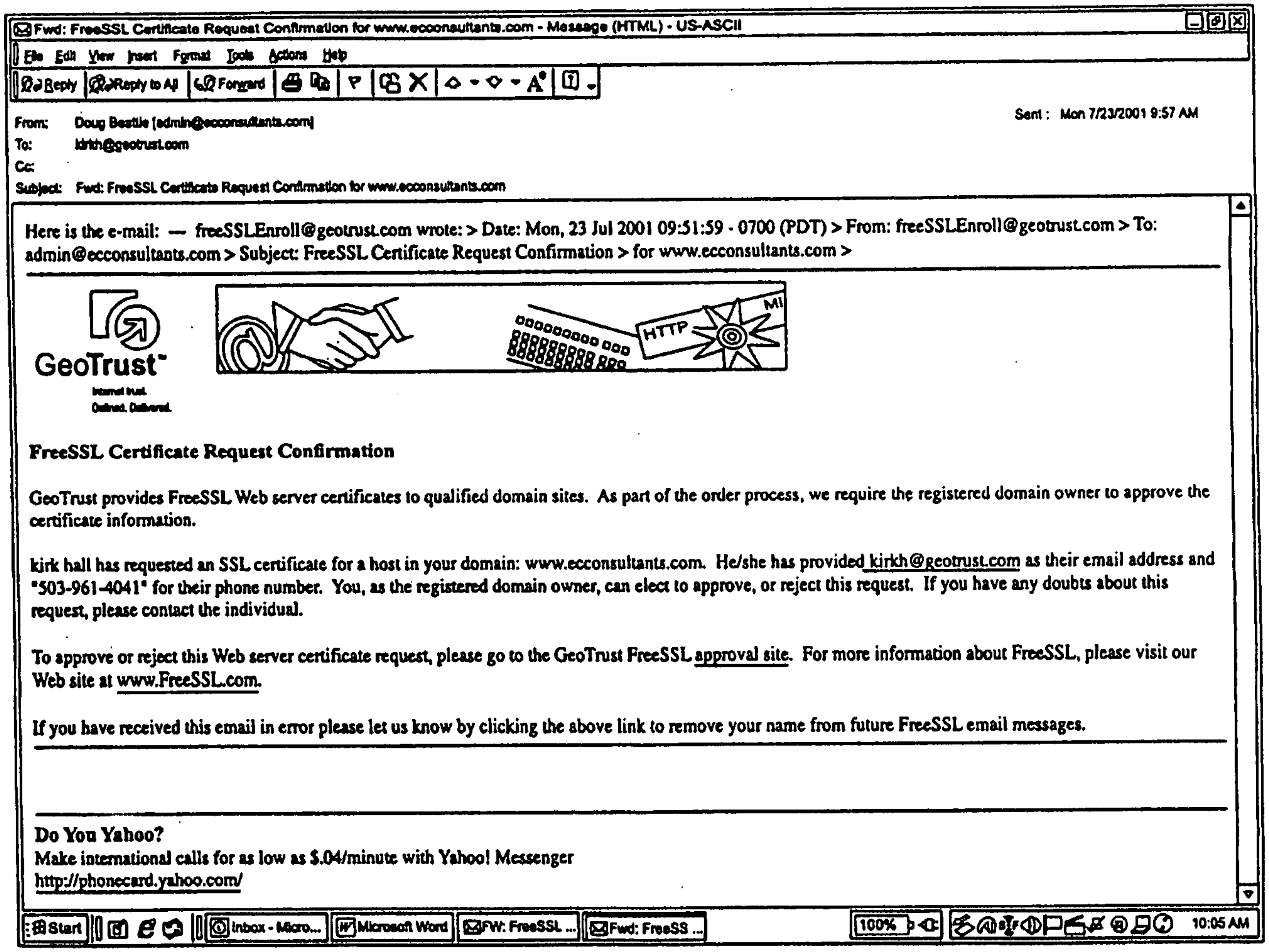
Privacy Policy, Terms and Conditions.

FIG. 20


Fwd: FreeSSL Certificate Request Confirmation for www.ecconsultants.com - Message (HTML) - US-ASCII
File Edit View Insert Format Tools Actions Help
Reply
Reply to All
Forward
GeoTrust
Internet trust. Defined. Delivered.
HTTP
Start
Inbox - Micro...
Microsoft Word
FW: FreeSSL ...
Fwd: FreeSS ...
100%
10:05 AM

From: Doug Beattie [admin@ecconsultants.com]
To: kirkh@geotrust.com
Cc:
Subject: Fwd: FreeSSL Certificate Request Confirmation for www.ecconsultants.com
Sent : Mon 7/23/2001 9:57 AM

Here is the e-mail: --- freeSSLEnroll@geotrust.com wrote: > Date: Mon, 23 Jul 2001 09:51:59 - 0700 (PDT) > From: freeSSLEnroll@geotrust.com > To: admin@ecconsultants.com > Subject: FreeSSL Certificate Request Confirmation > for www.ecconsultants.com >

FreeSSL Certificate Request Confirmation

GeoTrust provides FreeSSL Web server certificates to qualified domain sites. As part of the order process, we require the registered domain owner to approve the certificate information.

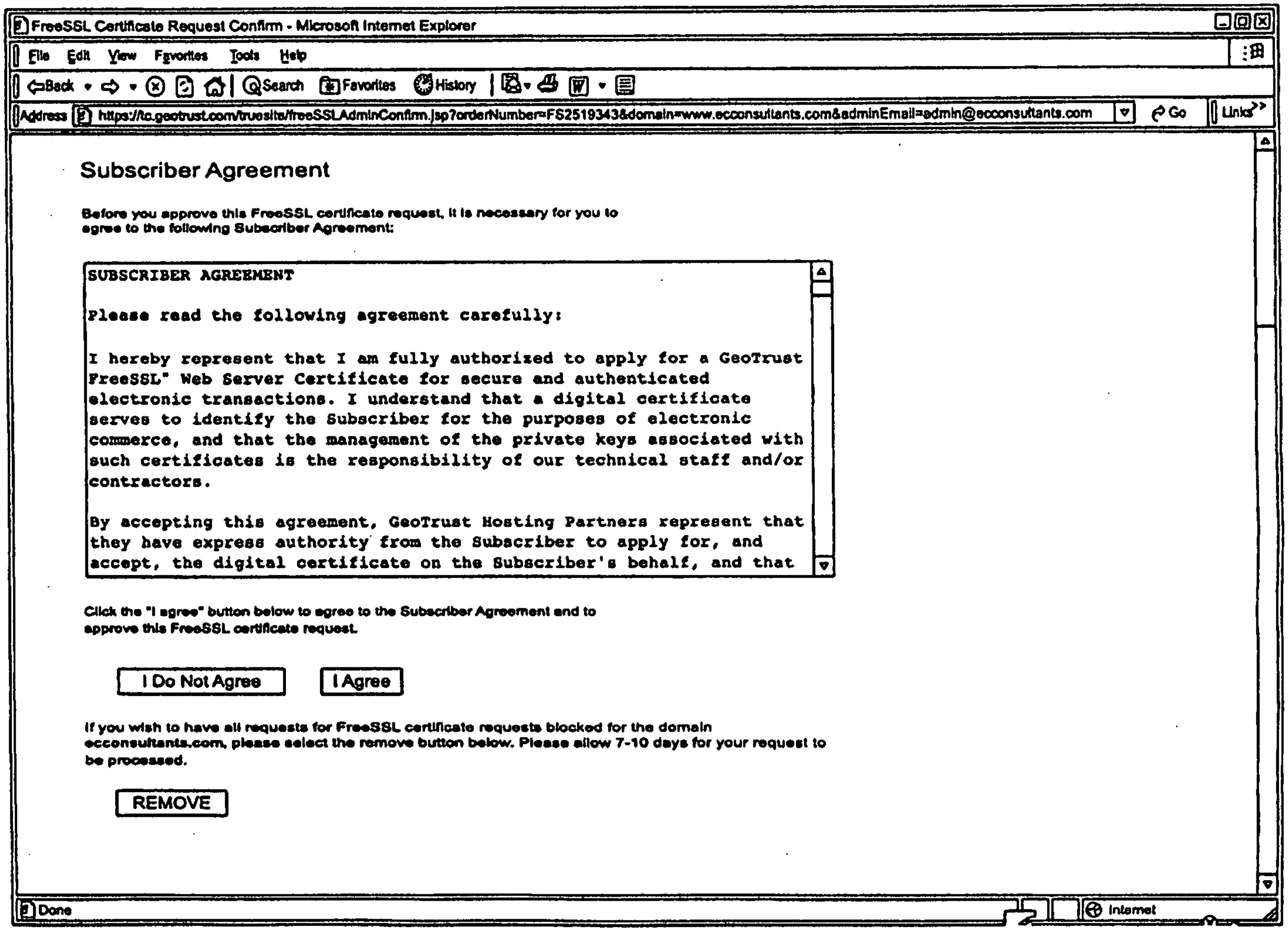
kirk hall has requested an SSL certificate for a host in your domain: www.ecconsultants.com. He/she has provided kirkh@geotrust.com as their email address and "503-961-4041" for their phone number. You, as the registered domain owner, can elect to approve, or reject this request. If you have any doubts about this request, please contact the individual.

To approve or reject this Web server certificate request, please go to the GeoTrust FreeSSL approval site. For more information about FreeSSL, please visit our Web site at www.FreeSSL.com.

If you have received this email in error please let us know by clicking the above link to remove your name from future FreeSSL email messages.

Do You Yahoo?
Make international calls for as low as $.04/minute with Yahoo! Messenger
http://phonecard.yahoo.com/

FIG. 21



FreeSSL Certificate Request Confirm - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address
Go
Links
Done
Internet

https://tc.geotrust.com/truesite/freeSSLAdminConfirm.jsp?orderNumber=FS2519343&domain=www.ecconsultants.com&adminEmail=admin@ecconsultants.com

Subscriber Agreement

Before you approve this FreeSSL certificate request, it is necessary for you to agree to the following Subscriber Agreement:

SUBSCRIBER AGREEMENT

Please read the following agreement carefully:

I hereby represent that I am fully authorized to apply for a GeoTrust FreeSSL" Web Server Certificate for secure and authenticated electronic transactions. I understand that a digital certificate serves to identify the Subscriber for the purposes of electronic commerce, and that the management of the private keys associated with such certificates is the responsibility of our technical staff and/or contractors.

By accepting this agreement, GeoTrust Hosting Partners represent that they have express authority from the Subscriber to apply for, and accept, the digital certificate on the Subscriber's behalf, and that

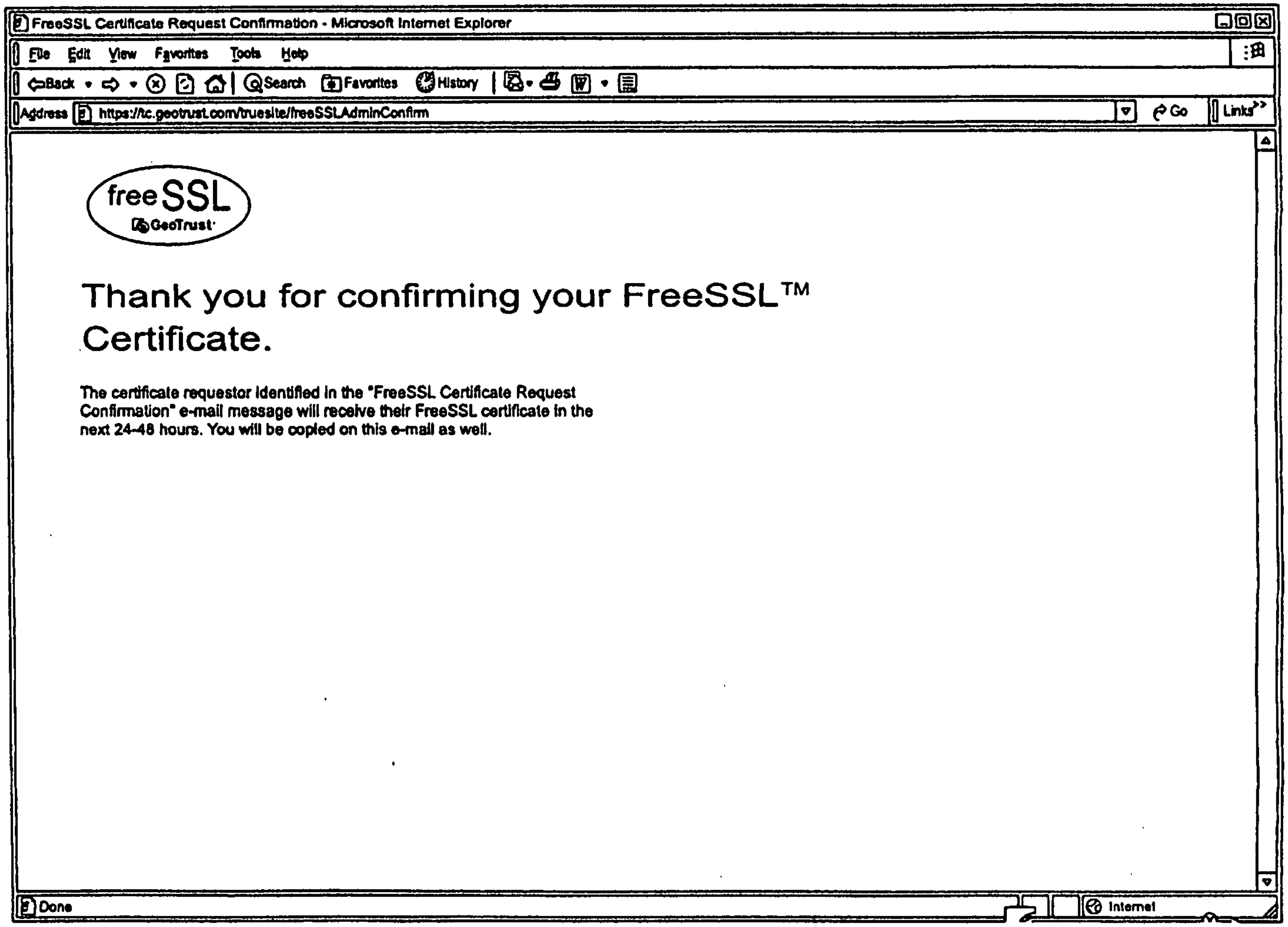
Click the "I agree" button below to agree to the Subscriber Agreement and to approve this FreeSSL certificate request.

I Do Not Agree   I Agree

If you wish to have all requests for FreeSSL certificate requests blocked for the domain ecconsultants.com, please select the remove button below. Please allow 7-10 days for your request to be processed.

REMOVE

FIG. 22

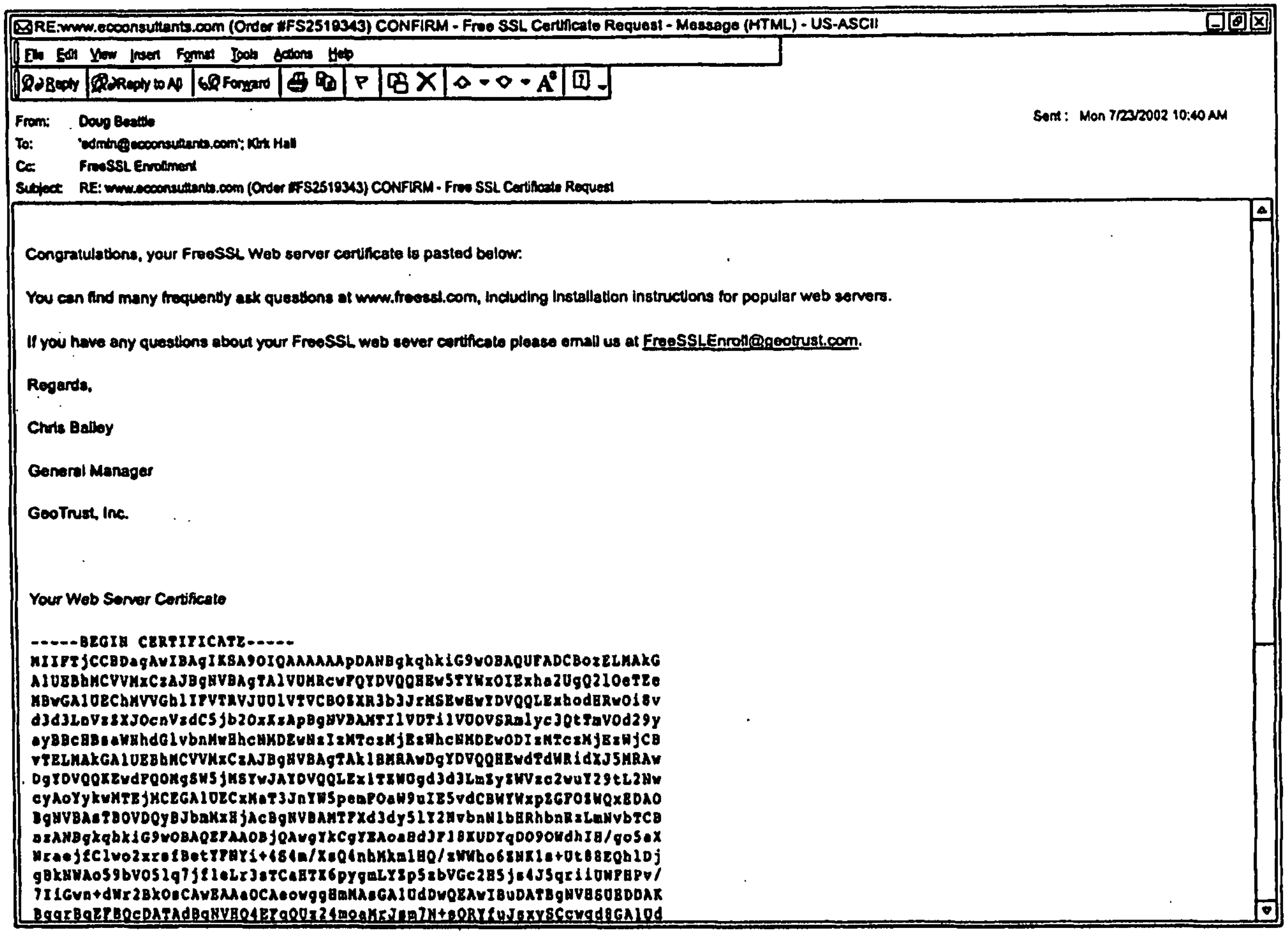


FreeSSL Certificate Request Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address https://tc.geotrust.com/truesite/freeSSLAdminConfirm
Go
Links
freeSSL GeoTrust
Done
Internet

Thank you for confirming your FreeSSL™ Certificate.

The certificate requestor identified in the "FreeSSL Certificate Request Confirmation" e-mail message will receive their FreeSSL certificate in the next 24-48 hours. You will be copied on this e-mail as well.

FIG. 23


RE:www.ecconsultants.com (Order #FS2519343) CONFIRM - Free SSL Certificate Request - Message (HTML) - US-ASCII
File Edit View Insert Format Tools Actions Help
Reply
Reply to All
Forward

From: Doug Beattie

To: 'admin@ecconsultants.com'; Kirk Hall

Cc: FreeSSL Enrollment

Subject: RE: www.ecconsultants.com (Order #FS2519343) CONFIRM - Free SSL Certificate Request

Sent: Mon 7/23/2002 10:40 AM

Congratulations, your FreeSSL Web server certificate is pasted below:

You can find many frequently ask questions at www.freessl.com, including installation instructions for popular web servers.

If you have any questions about your FreeSSL web sever certificate please email us at FreeSSLEnroll@geotrust.com.

Regards,

Chris Bailey

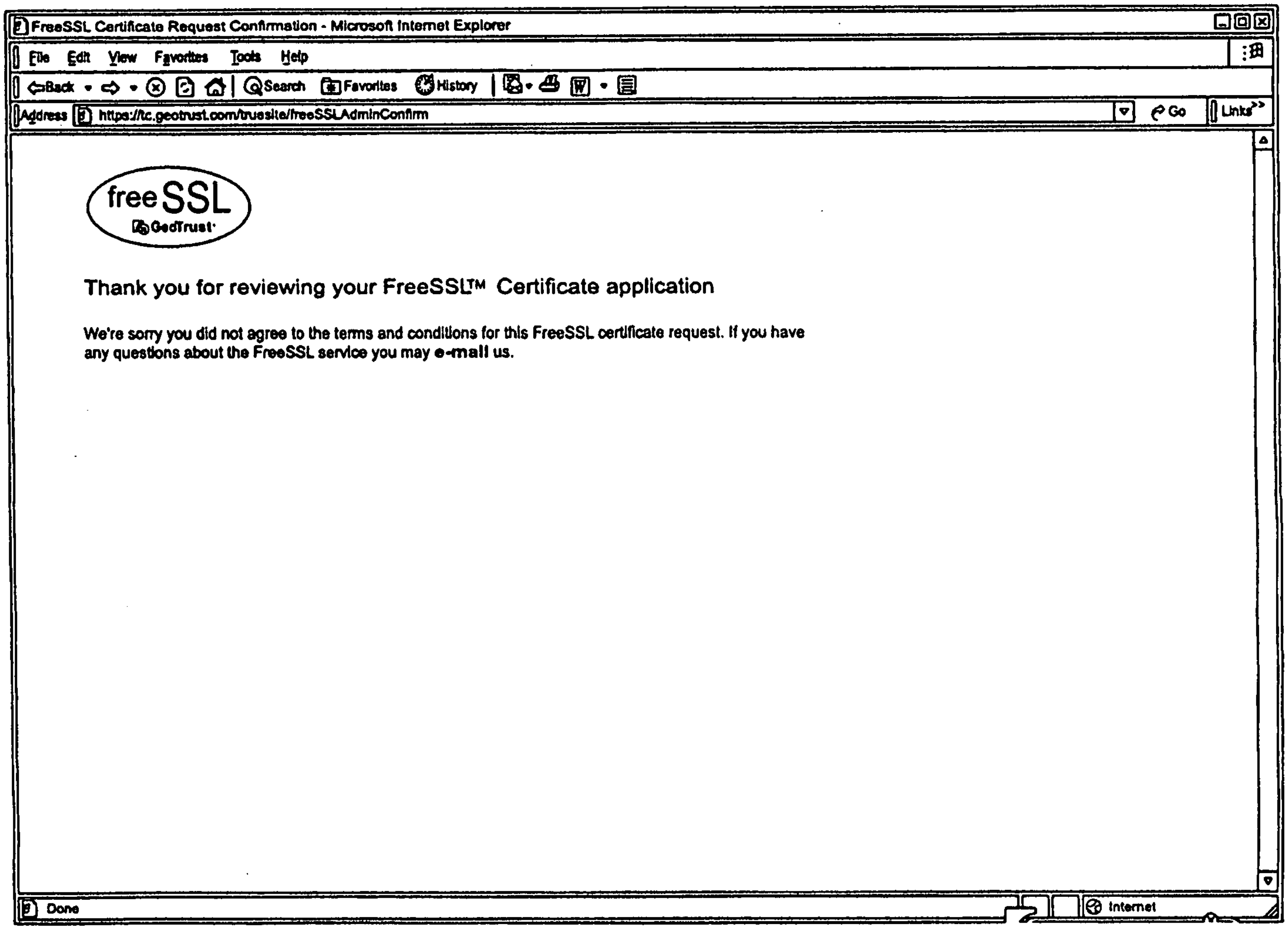
General Manager

GeoTrust, Inc.

Your Web Server Certificate

```
-----BEGIN CERTIFICATE-----
MIIFTjCCBDagAwIBAgIKSA9OIQAAAAAApDANBgkqhkiG9wOBAQUFADCBozELMAkG
A1UEBhMCVVMxCzAJBgNVBAgTAlVUMRcwFQYDVQQHEw5TYWxOIExha2UgQ2lOeTEe
MBwGA1UEChMVVGhlIFVTRVJUUlVTVCBOZXR3b3JrMSEwHwYDVQQLExhodHRwOi8v
d3d3LnVzZXJOcnVzdC5jb20xKzApBgNVBAMTIlVUTi1VUOVSRmlyc3QtTmV0d29y
ayBBcHBsaWNhdGlvbnMwHhcNMDEwNzIzMTczMjEzWhcNMDEwODIzMTczMjEzWjCB
vTELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAk1BMRAwDgYDVQQHEwdTdWRidXJ5MRAw
DgYDVQQKEwdFQ0NgSW5jMSYwJAYDVQQLEx1TZW0gd3d3LmZyZWVzc2wuY29tL2Nw
cyAoYykwMTEjMCEGA1UECxMaT3JnYW5pemF0aW9uIE5vdCBWYWxpZGF0ZWQxEDAO
BgNVBAsTB0VDQyBJbmMxHjAcBgNVBAMTFXd3dy5lY2NvbnN1bHRhbnRzLmNvbTCB
nzANBgkqhkiG9wOBAQEFAAOBjQAwgYkCgYEAoaHdJF18KUDYqDO9OWdhIH/qo5aX
NraejfClvo2xrefBetYFNYi+484m/XsQ4nbMkmlHQ/zWWho6ZNKls+Ut88EQhlDj
gBkNWAo59bVO5lq7jfleLr3sTCaHTK6pygmLYZp5zbVGc2B5js4J5qriiUNFHPv/
7IiGvn+dWr2BkOsCAwEAAaOCAeowggHmMAsGA1UdDwQEAwIBuDATBgNVHSUEDDAK
BggrBgEFBQcDATAdBgNVHQ4EFgQUz24moaMrJsm7N+sORYfuJsxySCcwgd8GA1Ud
```

FIG. 24



FreeSSL Certificate Request Confirmation - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address https://tc.geotrust.com/trusite/freeSSLAdminConfirm
Go
Links
freeSSL
GeoTrust
Done
Internet

Thank you for reviewing your FreeSSL™ Certificate application

We're sorry you did not agree to the terms and conditions for this FreeSSL certificate request. If you have any questions about the FreeSSL service you may e-mail us.

FIG. 25

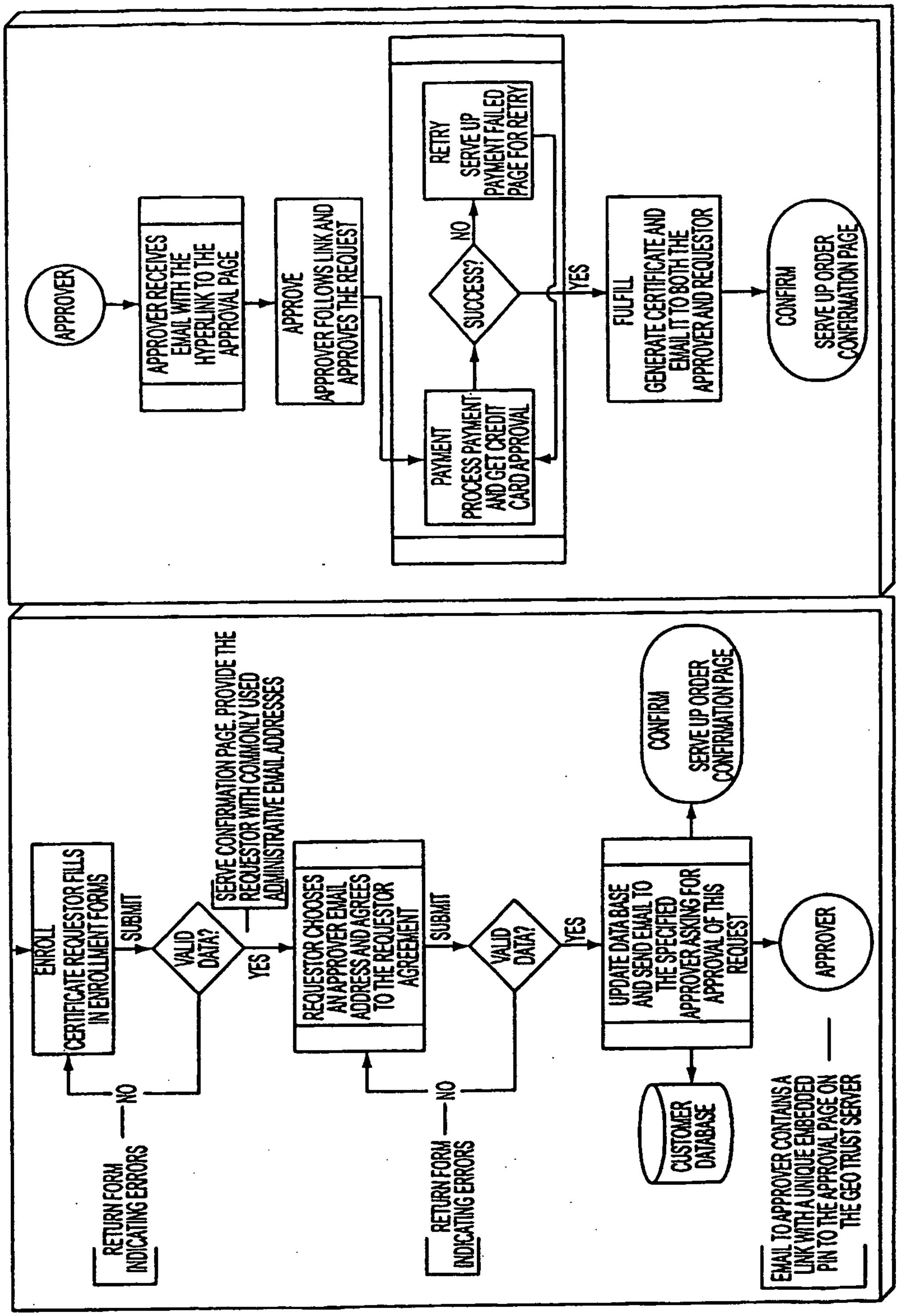

ENROLL
CERTIFICATE REQUESTOR FILLS IN ENROLLMENT FORMS
SUBMIT
VALID DATA?
NO
RETURN FORM INDICATING ERRORS
SERVE CONFIRMATION PAGE. PROVIDE THE REQUESTOR WITH COMMONLY USED ADMINISTRATIVE EMAIL ADDRESSES
YES
REQUESTOR CHOOSES AN APPROVER EMAIL ADDRESS AND AGREES TO THE REQUESTOR AGREEMENT
SUBMIT
VALID DATA?
NO
RETURN FORM INDICATING ERRORS
YES
UPDATE DATA BASE AND SEND EMAIL TO THE SPECIFIED APPROVER ASKING FOR APPROVAL OF THIS REQUEST
CUSTOMER DATABASE
CONFIRM
SERVE UP ORDER CONFIRMATION PAGE
APPROVER
EMAIL TO APPROVER CONTAINS A LINK WITH A UNIQUE EMBEDDED PIN TO THE APPROVAL PAGE ON THE GEO TRUST SERVER
APPROVER
APPROVER RECEIVES EMAIL WITH THE HYPERLINK TO THE APPROVAL PAGE
APPROVE
APPROVER FOLLOWS LINK AND APPROVES THE REQUEST
PAYMENT
PROCESS PAYMENT AND GET CREDIT CARD APPROVAL
SUCCESS?
NO
RETRY
SERVE UP PAYMENT FAILED PAGE FOR RETRY
YES
FULFILL
GENERATE CERTIFICATE AND EMAIL IT TO BOTH THE APPROVER AND REQUESTOR
CONFIRM
SERVE UP ORDER CONFIRMATION PAGE

FIG. 26

NOTES
1. WHEN APPROVER CLICKS "I APPROVE" AND PAYMENT IS MADE CERTIFICATES ARE ISSUED REAL TIME AND EMAILED TO CERTIFICATE REQUESTOR.
2. IF FAILURE ANYWHERE IN THE PROCESS THEN CERTIFICATE REQUEST IS QUEUED AND TECHNICAL STAFF NOTIFIED. THE REQUEST IS RETRIED EVERY 5 MINUTES. OPERATIONS STAFF CAN RETRY MORE OFTEN VIA A WEB INTERFACE IF NEEDED.
3. CERTIFICATE ISSUANCE AND EMAIL OUT TO REQUESTOR USUALLY HAPPENS IN 10 TO 20 SECONDS.

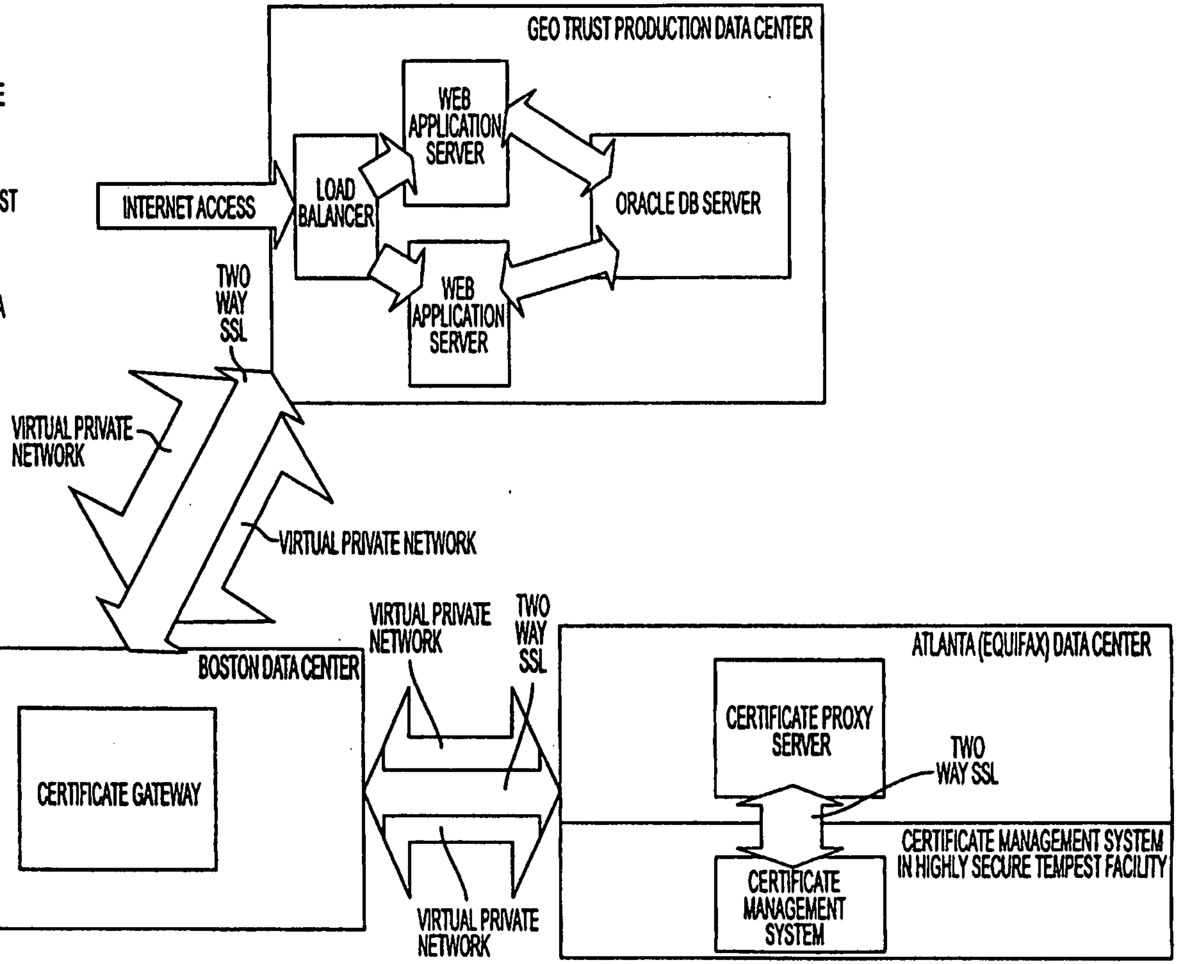


FIG. 27

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/33107

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 9/00
US CL : 713/201
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 713/200,201,155,156,,175,176,179; 705/62,,67,75,78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,035,402 A (VAETH et al) 07 March 2000, col.6,lines 5-20; col.7,lines 48-67; col.8,lines 1-6,34-48.	1-15
Y	US 6,134,658 A (MULTERER et al) 17 October 2000, col.3,lines 22-67; col.7,lines 7-57; col.8,lines 1-5.	1-15
A	US 5,903,882 A(ASAY et al) 11 May 1999, col.8,lines 9-25,45-65; col.14,lines 18-42; col.15, lines 57-67,	1-15
A	US 5,982,898 A(HSU et al) 09 November 1999,col.2,lines 58-67;col.3,lines 1-10; col.4,lines 46-67; col.5,lines 38-61.	1-15

□ Further documents are listed in the continuation of Box C. □ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

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Date of the actual completion of the international search

12 December 2002 (12.12.2002)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

PCT/US02/33107

Continuation of B. FIELDS SEARCHED Item 3:
EAST
search terms: CA,certificate authority,central authority,authentication,verification,generation,create,derive,SSL,IP,trust authority,data management.